CATALOG 9



LUFKIN

# PRECISION TOOLS

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# PRECISION TOOLS

THE LUFKIN RULE COMPANY

PLANT AND EXECUTIVE OFFICES: 1730 HESS ST., SAGINAW, MICHIGAN

CANADIAN OFFICE AND PLANT:

THE LUFKIN RULE CO. OF CANADA LIMITED BARRIE, ONTARIO

# INTRODUCTION

LUFKIN PRECISION TOOLS are the product of a separate division of our plant. The entire facilities of engineering, manufacturing, designing and inspection are devoted exclusively to measuring devices. Many years of experience and skill in fine toolmaking are incorporated in every Lufkin tool. Constant inspection is maintained with the most modern equipment and methods starting with the raw material through every phase of manufacture to the finished tool. Only highest quality materials are used and every tool is built to an exacting precision standard.

In the development of many of its products Lufkin has been the pioneer. Today, as through its whole history, Lufkin is the leader in noteworthy improvements in the industry. Lufkin products have worldwide distribution and are recognized as "The Standard of Accuracy" in the field of measuring.

# GENERAL INFORMATION

## ORDERING

When ordering, please specify complete stock number and name of item. Stocks of Lufkin Precision Tools are carried by industrial supply distributors and hardware and tool stores. All users are urged to purchase their requirements from these sources. We reserve the right to accept or reject all orders at our main office in Saginaw, Michigan.

## PRICES

Prices are shown in separate price list and are subject to change without notice.

## REPAIRS

A repair department staffed by competent mechanics is maintained for the repair of all Lufkin products. This service is available at reasonable cost. When goods are returned for repair, a letter or covering order giving full information as to what is desired should be mailed with the goods. The shipping container should be plainly marked "Repair" and with the sender's name and address.

## GUARANTY

Lufkin products are guaranteed against defects in workmanship and material. If any product is found unsatisfactory it may be returned to the factory for inspection and disposition. Any item found to be defective in workmanship or material will be replaced.

**Lufkin rules are available from your local industrial distributor, retail hardware or tool stores. These suppliers carry ample stocks and render efficient service.**

# Valuable Features of Lufkin Chrome Clad Micrometers

Lufkin Chrome Clad Non-Glare Satin Finish Micrometers have black filled graduations and figures. Finish has non-glare quality for easier reading in bright or poor light. Wear and rust-resistant.

Extra Large Diameter Thimble has wider space between graduations for more accurate reading. Extra large figures, longer graduation lines on bevel of thimble are easier to read and reduce chance of error.

Micro-Lap Finish on Anvil and Spindle Face for highest degree measuring accuracy. Mirror smooth.

Hardened One-Piece Spindle with Ground Threads. Uniformly hardened entire length. Threads precision ground for greater accuracy, smoother action, longer life.

Rapid Reading Graduations on Thimble, each thousandth clearly numbered, with every five thousandth having extra large figures. Faster, easier reading.

Ratchet Enclosed in Cap. New style with same function as old style extended ratchet, but reduces overall length of micrometer, giving tool better balance and "feel." Ratchet is used to apply equal pressure in taking measurements. New style ratchet cap is easier to use since ratchet is closer to fingers. Measurements are consistent and uniform.

Friction Thimble is similar to ratchet, but ratchet click is eliminated. Friction mechanism is part of thimble so using micrometer with one hand is easier and handier. Designed to apply consistent contact pressure for uniform readings.

Positive Action Cam Lock Nut: The spindle is securely held with a flick of the thumb. Cam provides more holding surface with no distortion of the spindle. Conveniently located and easier to use.

Adjustment Ease. Simple, fast adjustment of Lufkin Outside Micrometer compensates for wear on anvil and spindle faces. Reading line keeps its original position directly in line of vision regardless of number of times faces may have to be ground and lapped.

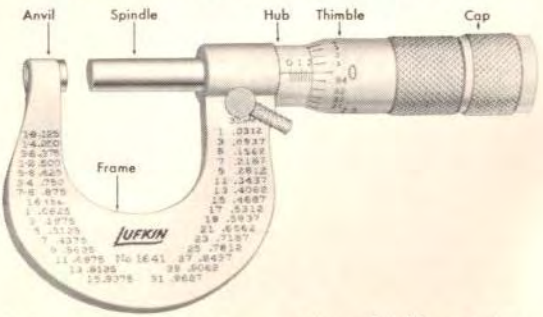
Quality. Many years of experience in fine toolmaking are incorporated in every Lufkin tool. Constant inspection is maintained through every phase of manufacture and most modern methods and equipment used. Every tool built to exacting precision standard—The Standard of Accuracy.

## LUFKIN OUTSIDE MICROMETERS ARE EASIEST TO ADJUST FOR WEAR ON ANVIL AND SPINDLE FACES

Three parts, one-piece spindle, thimble and cap enter into adjustment for wear on anvil and spindle faces. Threaded portion of spindle engages screw nut. Thimble is screwed to spindle. Chuck is formed on end of thimble. Tightening cap locks thimble chuck to spindle firmly, for most secure setting. As cap does not touch spindle, it will not change setting.

Lufkin Micrometers always retain excellent features. Reading line keeps its original position, directly in line of vision regardless of number of adjustments needed to correct for wear on anvil and spindle faces. Thimble does not cover measurement lines on hub either after simply adjusting for wear or grinding and lapping made necessary by wear, thus avoiding error in reading.

## DIRECTIONS FOR ADJUSTING ALL LUFKIN OUTSIDE MICROMETERS FOR WEAR ON FACES OF ANVIL AND SPINDLE

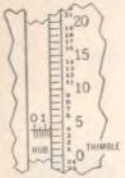



Loosen cap, which locks spindle and thimble together. Wrench is supplied for this.

Next grip spindle and turn thimble counterclockwise about one-quarter turn. Release grip on spindle and bring contact faces together. Turn thimble clockwise till zero line on hub and on thimble match exactly. Grip spindle carefully; turn it away from anvil. Hold thimble only and replace cap securely.

Tension on spindle thread: to change, adjust nut on end of hub with wrench supplied.

# Directions for Reading Lufkin Micrometers




Reading to .154

**To Read a Measurement to One Thousandth of an Inch:** Read first the total of thousandths indicated by the lines on the hub, each line representing 25, as .025, .050, .075, .100, .125, etc. To this add intermediate thousandths, reading directly off thimble, where each one, 1 to 24, is numbered.

Example per Cut to Left: Hub reading total is .150
Thimble reading is .004
Total Measurement is .154 inch


Reading to .1546

**To Read a Measurement to One Ten-Thousandth of an Inch:** Measurements to ten-thousandths inch are obtained by using vernier graduations, a series of divisions on hub of our Micrometer. Per cut to right, hub bears ten of these division lines occupying same space as nine divisions on thimble, and numbered 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 0.

To reading on hub add reading on thimble, as detailed above, this giving total of full thousandths. To that add reading of that line on vernier which coincides with line on thimble. If that be the line numbered 4, it means .0004, i.e., 4/10,000ths inch.

Example: Cut to the right shows total measurement .1546 inch. This is the grand total of 150 thousandths indicated on hub, plus 4 thousandths indicated on sleeve, plus 6 ten-thousandths indicated on vernier.

View A

View B

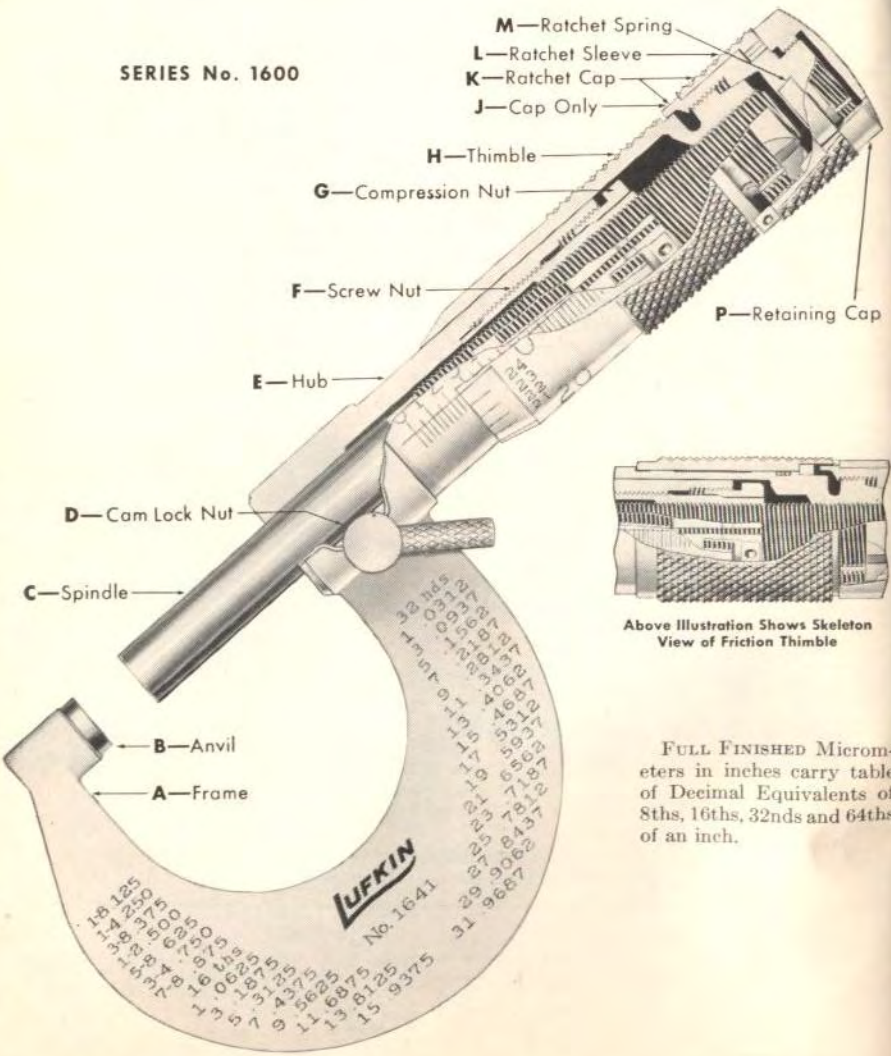
**LUFKIN MICROMETERS**
**Measure in Small Clearances and to Depths Indicated Below**

| Micrometer Size Inches | VIEW A | | VIEW B | |
|---|---|---|---|---|
| | Clearance Inches | Permits Measuring to Depth, Inches | Clearance Inches | Permits Measuring to Depth, Inches |
| ½ | 1/16 | 15/64 | 13/32 | 5/8 |
| 1 | 5/16 | 9/32 | 17/32 | 13/16 |
| 2 | 5/16 | 9/32 | 19/32 | 1 1/8 |

*SKELETON VIEW*

# Lufkin Chrome Clad
# Full Finished Micrometers

**SERIES No. 1600**






**Above Illustration Shows Skeleton View of Friction Thimble**

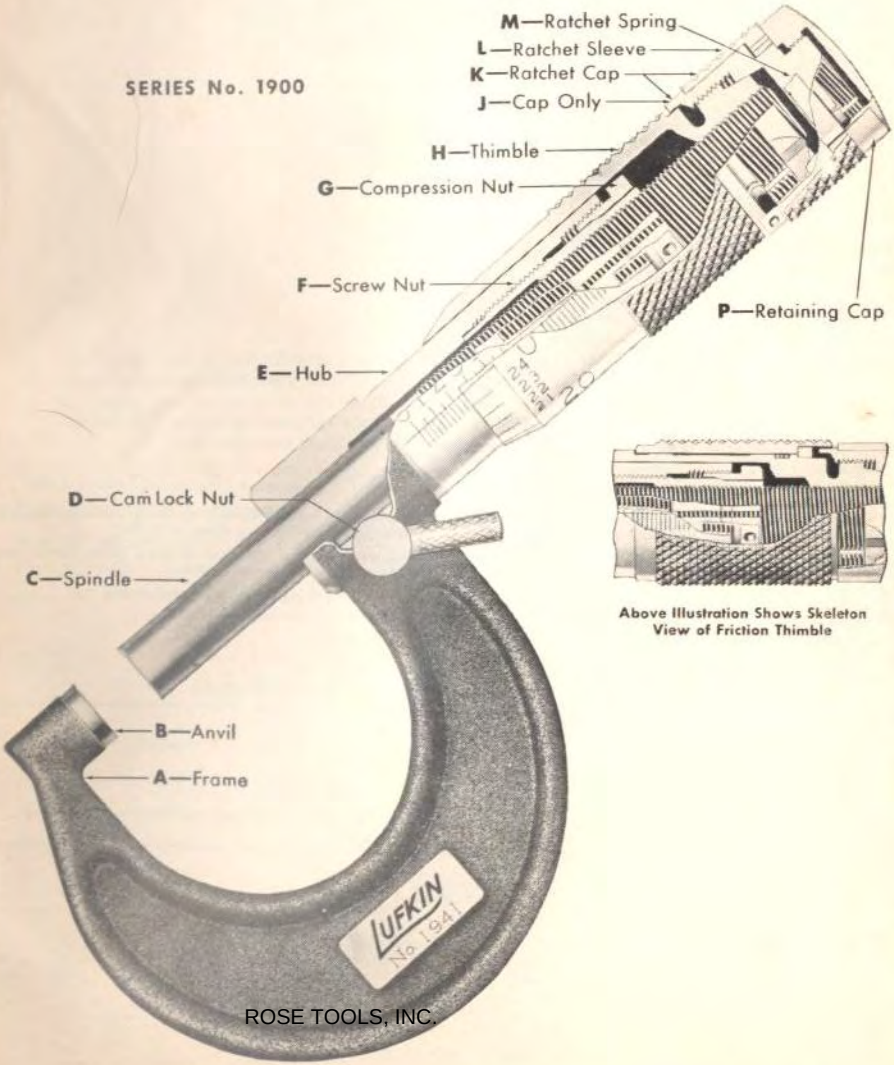
FULL FINISHED Micrometers in inches carry table of Decimal Equivalents of 8ths, 16ths, 32nds and 64ths of an inch.

*SKELETON VIEW*

## Lufkin Chrome Clad

## Enameled, Heavy, Ribbed Frame Micrometers

SERIES No. 1900

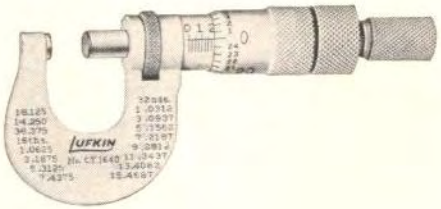





Above Illustration Shows Skeleton View of Friction Thimble

# Carbide Tipped Chrome Clad Micrometers

## ½-Inch • Full Finished Tapered Frame




**No. CT1640**

Micrometer with tungsten carbide tipped anvil and spindle face is recommended for use where severe abrasive conditions exist. Carbide has exceptional hardness and resistance to abrasion.

A valuable feature of this micrometer is the improved tapered frame. Measurements can be taken in places inaccessible to many other micrometers.

**Easy to read. Chrome Clad non-glare satin finish with black filled graduations and figures.**

**Rapid reading graduations on thimble.**

**Hardened one-piece spindle with ground threads.**

**Diameter spindle, .195 inch.**

**Anvil end of micrometer can be inserted into a ¼-inch opening to a depth of $^{15}/_{64}$ inch; a $^{13}/_{32}$-inch opening will permit measuring to a depth of ⅜ inch.**

**Table of decimal equivalents of 8ths, 16ths, 32nds and 64ths is marked on the frame.**

**Micro-lap finish on anvil and spindle ends.**

**Positive action lock nut.**

**Easy to adjust.**

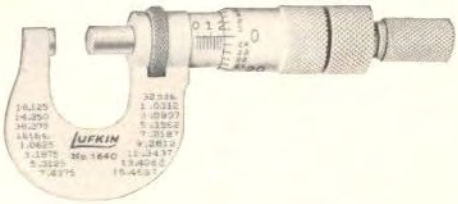
| Range, Inches | Measures by 1,000ths Inch<br>No. | Measures by 10,000ths Inch<br>No. | Equipment |
|---|---|---|---|
| 0 to ½ | **CT1640** | **CT1640V** | With Lock Nut and Ratchet Stop |

Packing: One in a Box.

***FOR PRICES SEE PRICE LIST***

# Chrome Clad Micrometers

## ½-Inch • Full Finished Tapered Frame




**No. 1640**

A valuable feature of this micrometer is the improved tapered frame. Measurements can be taken in places inaccessible to many other micrometers.

**Easy to read. Chrome Clad non-glare satin finish with black filled graduations and figures.**

**Rapid reading graduations on thimble.**

**Hardened one-piece spindle with ground threads.**

**Diameter spindle, .195 inch.**

**Anvil end of micrometer can be inserted into a ¼-inch opening to a depth of 15/64 inch; a 13/32-inch opening will permit measuring to a depth of ⅜ inch.**

**Table of decimal equivalents of 8ths, 16ths, 32nds and 64ths is marked on the frame.**

**Micro-lap finish on anvil and spindle ends.**

**Positive action lock nut.**

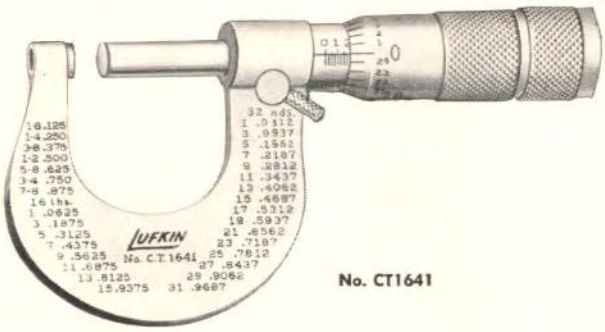
**Easy to adjust.**

| Range Inches | Measures by 1,000ths Inch | Measures by 10,000ths Inch | Metric Measures by 100ths Mm. | | Equipment |
|---|---|---|---|---|---|
| | No. | No. | Range Mm. | No. | |
| 0 to ½<br>0 to ½ | 1610<br>1640 | 1640V | 0 to 13 | 1640M | Plain<br>With Lock Nut and Ratchet Stop |

Packing: One in a Box.

# Carbide Tipped Chrome Clad Micrometers

## 1-Inch • Full Finished Tapered Frame




No. CT1641

Micrometer with tungsten carbide tipped anvil and spindle face is recommended for use where severe abrasive conditions exist. Carbide has exceptional hardness and resistance to abrasion.

A valuable feature of this micrometer is the improved tapered frame. Measurements can be taken in places inaccessible to many other micrometers.

**Easy to read. Chrome Clad non-glare satin finish with black filled graduations and figures.**

**Extra large diameter thimble with wider spaces between graduations.**

**Extra large figures and longer graduation lines on bevel of thimble.**

**Rapid reading graduations on thimble.**

**Hardened one-piece spindle with ground threads.**

**Diameter spindle, .250 inch.**

**Anvil end of micrometer can be inserted into a 5/16-inch opening to a depth of 5/32 inch; a 17/32-inch opening will permit measuring to a depth of 5/16-inch.**

**Table of decimal equivalents of 8ths, 16ths, 32nds and 64ths is marked on the frame.**

**Micro-lap finish on anvil and spindle ends.**

**Ratchet stop enclosed in cap; easier to use.**

**Positive action cam lock nut.**

**Easy to adjust.**

**Plush lined case can be supplied when ordered.**

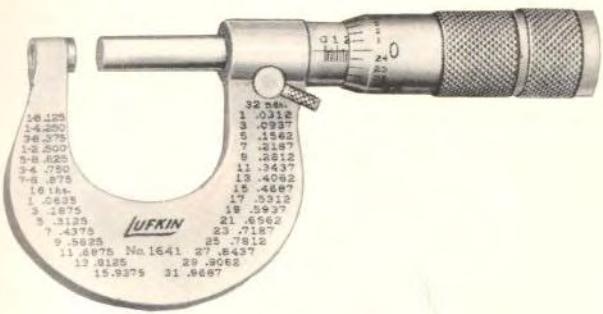
| Range Inches | Measures by 1,000ths Inch No. | Measures by 10,000ths Inch No. | Equipment |
|---|---|---|---|
| 0 to 1 | **CT1611** | **CT1611V** | Plain |
| 0 to 1 | **CT1621** | **CT1621V** | With Lock Nut |
| 0 to 1 | **CT1641** | **CT1641V** | With Ratchet Cap and Lock Nut |
| 0 to 1 | **CT1661** | **CT1661V** | With Friction Thimble and Lock Nut |

Packing: One in a Box

*FOR PRICES SEE PRICE LIST*

# Chrome Clad Micrometers

## 1-Inch • Full Finished Tapered Frame




**No. 1641**

A valuable feature of this micrometer is the improved tapered frame. Measurements can be taken in places inaccessible to many other micrometers.

**Easy to read. Chrome Clad non-glare satin finish with black filled graduations and figures.**

**Extra large diameter thimble with wider spaces between graduations.**

**Extra large figures and longer graduation lines on bevel of thimble.**

**Rapid reading graduations on thimble.**

**Hardened one-piece spindle with ground threads.**

**Diameter spindle, .250 inch.**

**Anvil end of micrometer can be inserted into a 5/16-inch opening to a depth of 9/32 inch; a 17/32-inch opening will permit measuring to a depth of 15/16 inch.**

**Table of decimal equivalents of 8ths, 16ths, 32nds and 64ths is marked on the frame.**

**Micro-lap finish on anvil and spindle ends.**

**Ratchet stop enclosed in cap; easier to use.**

**Positive action cam lock nut.**

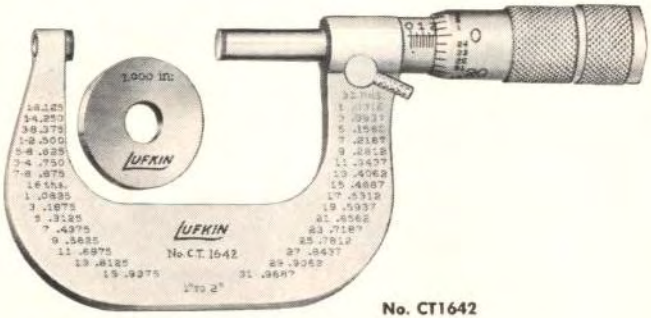
**Easy to adjust.**
**Plush lined case can be supplied when ordered.**

| Range Inches | Measures by 1,000ths Inch | Measures by 10,000ths Inch | Metric Measures by 100ths Mm. | | Equipment |
|---|---|---|---|---|---|
| | No. | No. | Range Mm. | No. | |
| 0 to 1 | **1611** | **1611V** | ..... | ..... | Plain |
| 0 to 1 | **1621** | **1621V** | ..... | ..... | With Lock Nut |
| 0 to 1 | **1641** | **1641V** | 0 to 25 | **1641M** | With Ratchet Cap and Lock Nut |
| 0 to 1 | **1661** | **1661V** | ..... | ..... | With Friction Thimble and Lock Nut |

Packing: One in a Box.

# Carbide Tipped Chrome Clad Micrometers

## 2 Inch • Full Finished Tapered Frame




**No. CT1642**

Micrometer with tungsten carbide tipped anvil and spindle face is recommended for use where severe abrasive conditions exist. Carbide has exceptional hardness and resistance to abrasion.

A valuable feature of this micrometer is the improved tapered frame. Measurements can be taken in places inaccessible to many other micrometers.

**Easy to read. Chrome Clad non-glare satin finish with black filled graduations and figures.**

**Extra large diameter thimble with wider spaces between graduations.**

**Extra large figures and longer graduation lines on bevel of thimble.**

**Rapid reading graduations on thimble.**

**Hardened one-piece spindle with ground threads.**

**Diameter spindle, .250 inch.**

**Anvil end of micrometer can be inserted into 5/16-inch opening to a depth of 5/32 inch; 19/32-inch opening will permit measuring to a depth of 1 1/8 inches.**

**Table of decimal equivalents of 8ths, 16ths, 32nds and 64ths is marked on the frame.**

**Micro-lap finish on anvil and spindle ends.**

**Ratchet stop enclosed in cap; easier to use.**

**Positive action cam lock nut.**

**Easy to adjust.**

**Furnished with 1-inch standard.**

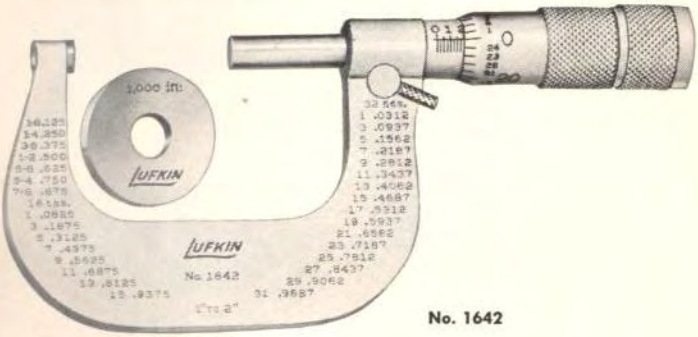
**Plush lined case supplied when ordered.**

| Range Inches | Measures by 1,000ths Inch | Measures by 10,000ths Inch | Equipment |
|---|---|---|---|
| | No. | No. | |
| 1 to 2 | **CT1612** | **CT1612V** | Plain |
| 1 to 2 | **CT1622** | **CT1622V** | With Lock Nut |
| 1 to 2 | **CT1642** | **CT1642V** | With Ratchet Cap and Lock Nut |
| 1 to 2 | **CT1662** | **CT1662V** | With Friction Thimble and Lock Nut |

Packing: One in a Box.

# Chrome Clad Micrometers

## 2 Inch • Full Finished Tapered Frame




No. 1642

A valuable feature of this micrometer is the improved tapered frame. Measurements can be taken in places inaccessible to many other micrometers.

**Easy to read. Chrome Clad non-glare satin finish with black filled graduations and figures.**

**Extra large diameter thimble with wider spaces between graduations.**

**Extra large figures and longer graduation lines on bevel of thimble.**

**Rapid reading graduations on thimble.**

**Hardened one-piece spindle with ground threads.**

**Diameter spindle, .250 inch.**

**Anvil end of micrometer can be inserted into 5/16-inch opening to a depth of 9/32 inch; 19/32-inch opening will permit measuring to a depth of 1 1/8 inches.**

**Table of decimal equivalents of 8ths, 16ths, 32nds and 64ths is marked on the frame.**

**Micro-lap finish on anvil and spindle ends.**

**Ratchet stop enclosed in cap; easier to use.**

**Positive action cam lock nut.**

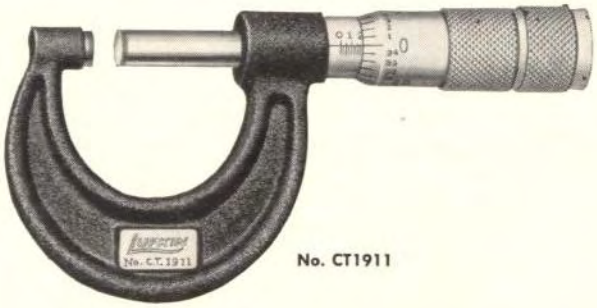
**Easy to adjust.**
**Furnished with 1-inch standard.**
**Plush lined case supplied when ordered.**

| Range Inches | Measures by 1,000ths Inch | Measures by 10,000ths Inch | Metric Measures by 100ths Mm. | | Equipment |
|---|---|---|---|---|---|
| | No. | No. | Range Mm. | No. | |
| 1 to 2 | **1612** | **1612V** | ..... | ..... | Plain |
| 1 to 2 | **1622** | **1622V** | ..... | ..... | With Lock Nut |
| 1 to 2 | **1642** | **1642V** | 25 to 50 | **1642M** | With Ratchet Cap and Lock Nut |
| 1 to 2 | **1662** | **1662V** | ..... | ..... | With Friction Thimble and Lock Nut |

Packing: One in a Box.

# Carbide Tipped Chrome Clad Micrometers

## Black Enameled Heavy Duty Ribbed Frame




No. CT1911

Micrometer with tungsten carbide tipped anvil and spindle face is recommended for use where severe abrasive conditions exist. Carbide has exceptional hardness and resistance to abrasion.

Designed for production work. Accurate, strong, durable and built to withstand hard usage. Choice of many students and vocational schools.

**Easy to read. Chrome Clad non-glare satin finish with black filled graduations and figures.**

**Extra large diameter thimble with wider spaces between graduations.**

**Extra large figures and longer graduation lines on bevel of thimble.**

**Rapid reading graduations on thimble.**

**Hardened one-piece spindle with ground threads.**

**Large diameter spindle .270 inch for extra wear.**

**Micro-lap finish on anvil and spindle ends.**

**Ratchet stop enclosed in cap; easier to use.**

**Positive action cam lock nut.**

**Easy to adjust.**

**Non-slip finish on frame; easier to hold.**

**Plush lined cases for the 1 and 2-inch micrometers and finished wood cases for the 3-inch micrometers are available when ordered; see page 45. A 1-inch standard can be supplied for the 2-inch micrometer and a 2-inch standard for the 3-inch micrometer when ordered.**

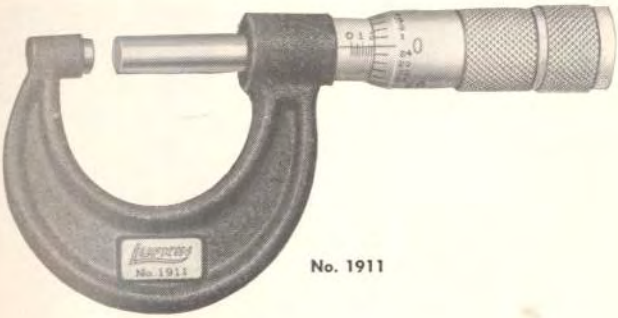
| Measures by 1,000ths Inch | | | Measures by 10,000ths Inch | | | Equipment |
|---|---|---|---|---|---|---|
| Range 0 to 1 Inch | Range 1 to 2 Inches | Range 2 to 3 Inches | Range 0 to 1 Inch | Range 1 to 2 Inches | Range 2 to 3 Inches | |
| No. | No. | No. | No. | No. | No. | |
| **CT1911** | **CT1912** | **CT1913** | **CT1911V** | **CT1912V** | **CT1913V** | Plain |
| **CT1941** | **CT1942** | **CT1943** | **CT1941V** | **CT1942V** | **CT1943V** | With Lock Nut and Ratchet Cap |
| **CT1961** | **CT1962** | **CT1963** | **CT1961V** | **CT1962V** | **CT1963V** | With Friction Thimble and Lock Nut |

Packing: One in a Box.

*FOR PRICES SEE PRICE LIST*

# Chrome Clad Micrometers

## Black Enameled Heavy Duty Ribbed Frame




No. 1911

A tool designed for production work. It is accurate, strong, durable and built to withstand hard usage. It is also the choice of many students and vocational schools.

- Easy to read. Chrome Clad non-glare satin finish with black filled graduations and figures.
- Extra large diameter thimble with wider spaces between graduations.
- Extra large figures and longer graduation lines on bevel of thimble.
- Rapid reading graduations on thimble.
- Hardened one-piece spindle with ground threads.
- Large diameter spindle .270 inch for extra wear.
- Micro-lap finish on anvil and spindle ends.
- Ratchet stop enclosed in cap; easier to use.
- Positive action cam lock nut.
- Easy to adjust.
- Non-slip finish on frame; easier to hold.

Plush lined cases for the 1 and 2-inch micrometers and finished wood cases for the 3-inch micrometers are available when ordered; see page 45. A 1-inch standard can be supplied for the 2-inch micrometer and a 2-inch standard for the 3-inch micrometer when ordered.

| Measures by 1,000ths Inch | | | Measures by 10,000ths Inch | | | Equipment |
|---|---|---|---|---|---|---|
| Range 0 to 1 Inch | Range 1 to 2 Inches | Range 2 to 3 Inches | Range 0 to 1 Inch | Range 1 to 2 Inches | Range 2 to 3 Inches | |
| No. | No. | No. | No. | No. | No. | |
| 1911 | 1912 | 1913 | 1911V | 1912V | 1913V | Plain |
| 1921 | 1922 | 1923 | | 1922V | | With Lock Nut |
| 1941 | 1942 | 1943 | 1941V | 1942V | 1943V | With Lock Nut and Ratchet Cap |
| 1961 | 1962 | 1963 | 1961V | 1962V | 1963V | With Friction Thimble and Lock Nut |

Packing: One in a Box.



FOR PRICES SEE PRICE LIST

# Carbide Tipped Chrome Clad Micrometers

## Black Enameled Heavy Duty Ribbed Frame


**No. CT1914**

Micrometer with tungsten carbide tipped anvil and spindle face is recommended for use where severe abrasive conditions exist. Carbide has exceptional hardness and resistance to abrasion.

Designed for production work. Accurate, strong, durable and built to withstand hard usage. Choice of many students and vocational schools.

**Easy to read. Chrome Clad non-glare satin finish with black filled graduations and figures.**

**Extra large diameter thimble with wider spaces between graduations.**

**Extra large figures and longer graduation lines on bevel of thimble.**

**Rapid reading graduations on thimble.**

**Hardened one-piece spindle with ground threads.**

**Large diameter spindle .270 inch for extra wear.**

**Micro-lap finish on anvil and spindle ends.**

**Ratchet stop enclosed in cap; easier to use.**

**Positive action cam lock nut.**

**Easy to adjust.**

**Non-slip finish on frame; easier to hold.**

**Finished wood case available when ordered.**

**A 3-inch standard can be supplied for the 4-inch micrometer, a 4-inch standard for the 5-inch micrometer and a 5-inch standard for the 6-inch micrometer when ordered.**

| Measures by 1,000ths Inch | | | Measures by 10,000ths Inch | | | Equipment |
|---|---|---|---|---|---|---|
| Range 3 to 4 Inches | Range 4 to 5 Inches | Range 5 to 6 Inches | Range 3 to 4 Inches | Range 4 to 5 Inches | Range 5 to 6 Inches | |
| No. | No. | No. | No. | No. | No. | |
| **CT1914** | **CT1915** | **CT1916** | **CT1914V** | **CT1915V** | **CT1916V** | Plain |
| **CT1944** | **CT1945** | **CT1946** | **CT1944V** | **CT1945V** | **CT1946V** | With Lock Nut and Ratchet Cap |
| **CT1964** | **CT1965** | **CT1966** | **CT1964V** | **CT1965V** | **CT1966V** | With Friction Thimble and Lock Nut |

Packing: One in a Box.

***FOR PRICES SEE PRICE LIST***

# Chrome Clad Micrometers

## Black Enameled Heavy Duty Ribbed Frame


No. 1914

A tool designed for production work. It is accurate, strong, durable and built to withstand hard usage. It is also the choice of many students and vocational schools.

**Easy to read. Chrome Clad non-glare satin finish with black filled graduations and figures.**

**Extra large diameter thimble with wider spaces between graduations.**

**Extra large figures and longer graduation lines on bevel of thimble.**

**Rapid reading graduations on thimble.**

**Hardened one-piece spindle with ground threads.**

**Large diameter spindle .270 inch for extra wear.**

**Micro-lap finish on anvil and spindle ends.**

**Ratchet stop enclosed in cap; easier to use.**

**Positive action cam lock nut.**

**Easy to adjust.**

**Non-slip finish on frame; easier to hold.**

**Finished wood case available when ordered.**

**A 3-inch standard can be supplied for the 4-inch micrometer, a 4-inch standard for the 5-inch micrometer and a 5-inch standard for the 6-inch micrometer when ordered.**

| Measures by 1,000ths Inch | | | Measures by 10,000ths Inch | | | Equipment |
|---|---|---|---|---|---|---|
| Range 3 to 4 Inches | Range 4 to 5 Inches | Range 5 to 6 Inches | Range 3 to 4 Inches | Range 4 to 5 Inches | Range 5 to 6 Inches | |
| No. | No. | No. | No. | No. | No. | |
| 1914 | 1915 | 1916 | 1914V | 1915V | 1916V | Plain |
| 1924 | 1925 | 1926 | | | | With Lock Nut |
| 1944 | 1945 | 1946 | 1944V | 1945V | 1946V | With Lock Nut and Ratchet Cap |
| 1964 | 1965 | 1966 | 1964V | 1965V | 1966V | With Friction Thimble and Lock Nut |

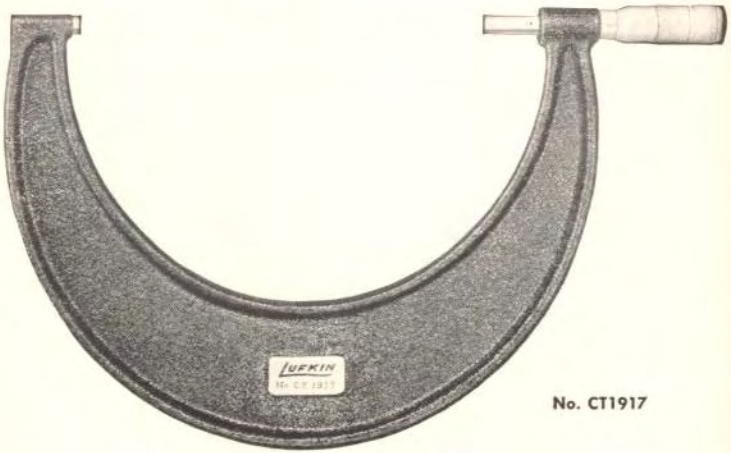
Packing: One in a Box.



FOR PRICES SEE PRICE LIST

# Carbide Tipped Chrome Clad Micrometers

## Black Enameled Heavy Duty Ribbed Frame




No. CT1917

Micrometer with tungsten carbide tipped anvil and spindle face is recommended for use where severe abrasive conditions exist. Carbide has exceptional hardness and resistance to abrasion.

Designed for production work. Accurate, strong, durable and built to withstand hard usage. Choice of many students and vocational schools.

**Easy to read. Chrome Clad non-glare satin finish with black filled graduations and figures.**

**Extra large diameter thimble with wider spaces between graduations.**

**Extra large figures and longer graduation lines on bevel of thimble.**

**Rapid reading graduations on thimble.**

**Hardened one-piece spindle with ground threads.**

**Large diameter spindle .270 inch for extra wear.**

**Micro-lap finish on anvil and spindle ends.**

**Ratchet stop enclosed in cap; easier to use.**

**Positive action cam lock nut.**

**Easy to adjust.**

**Non-slip finish on frame; easier to hold.**

**Finished wood case available.**

**A 6-inch standard can be supplied for the 7-inch micrometer, a 7-inch standard for the 8-inch micrometer and an 8-inch standard for the 9-inch micrometer when ordered.**

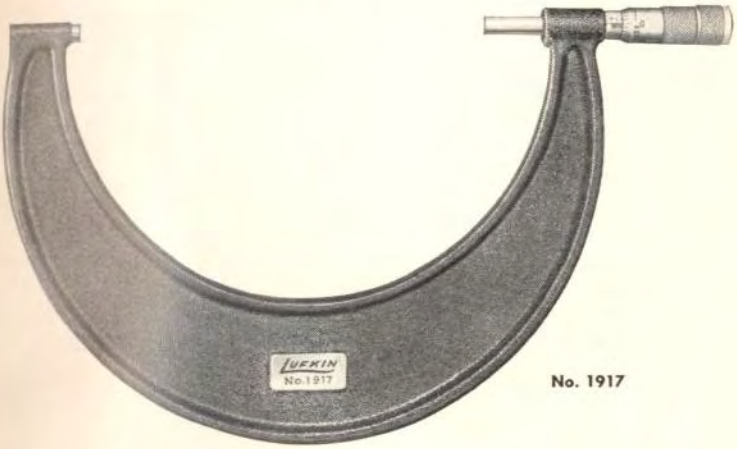
| Measures by 1,000ths Inch | | | Measures by 10,000ths Inch | | | Equipment |
|---|---|---|---|---|---|---|
| Range 6 to 7 Inches | Range 7 to 8 Inches | Range 8 to 9 Inches | Range 6 to 7 Inches | Range 7 to 8 Inches | Range 8 to 9 Inches | |
| No. | No. | No. | No. | No. | No. | |
| CT1917 | CT1918 | CT1919 | CT1917V | CT1918V | CT1919V | Plain |
| CT1927 | CT1928 | CT1929 | ..... | ..... | ..... | With Lock Nut |
| CT1947 | CT1948 | CT1949 | CT1947V | CT1948V | CT1949V | With Lock Nut and Ratchet Cap |
| CT1967 | CT1968 | CT1969 | CT1967V | CT1968V | CT1969V | With Friction Thimble and Lock Nut |

Packing: One in a Box.

FOR PRICES SEE PRICE LIST

# Chrome Clad Micrometers

## Black Enameled Heavy Duty Ribbed Frame




No. 1917

A tool designed for production work. It is accurate, strong, durable and built to withstand hard usage. It is also the choice of many students and vocational schools.

**Easy to read. Chrome Clad non-glare satin finish with black filled graduations and figures.**

**Extra large diameter thimble with wider spaces between graduations.**

**Extra large figures and longer graduation lines on bevel of thimble.**

**Rapid reading graduations on thimble.**

**Hardened one-piece spindle with ground threads.**

**Large diameter spindle .270 inch for extra wear.**

**Micro-lap finish on anvil and spindle ends.**

**Ratchet stop enclosed in cap; easier to use.**

**Positive action cam lock nut.**

**Easy to adjust.**

**Non-slip finish on frame; easier to hold.**

**Finished wood cases available.**

**A 6-inch standard can be supplied for the 7-inch micrometer, a 7-inch standard for the 8-inch micrometer and an 8-inch standard for the 9-inch micrometer when ordered.**

| Measures by 1,000ths Inch | | | Measures by 10,000ths Inch | | | Equipment |
|---|---|---|---|---|---|---|
| Range 6 to 7 Inches | Range 7 to 8 Inches | Range 8 to 9 Inches | Range 6 to 7 Inches | Range 7 to 8 Inches | Range 8 to 9 Inches | |
| No. | No. | No. | No. | No. | No. | |
| 1917 | 1918 | 1919 | 1917V | 1918V | 1919V | Plain |
| 1927 | 1928 | 1929 | ..... | ..... | ..... | With Lock Nut |
| 1947 | 1948 | 1949 | 1947V | 1948V | 1949V | With Lock Nut and Ratchet Cap |

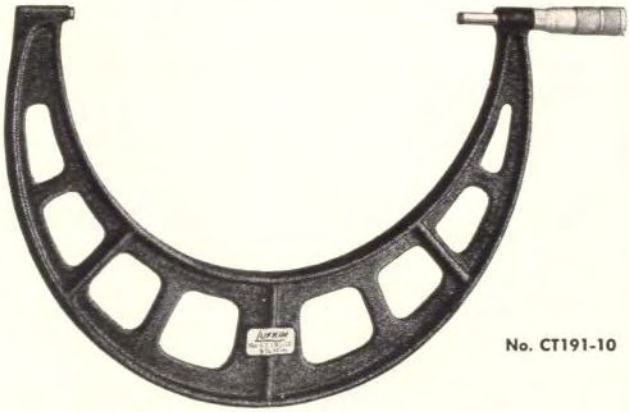
Packing: One in a Box.



FOR PRICES SEE PRICE LIST

# Carbide Tipped Chrome Clad Micrometers

## Black Enameled Heavy Duty Ribbed Frame



No. CT191-10

Micrometer with tungsten carbide tipped anvil and spindle face is recommended for use where severe abrasive conditions exist. Carbide has exceptional hardness and resistance to abrasion.

Designed for production work. Accurate, strong, durable and built to withstand hard usage. Choice of many students and vocational schools.

**Easy to read. Chrome Clad non-glare satin finish with black filled graduations and figures.**

**Extra large diameter thimble with wider spaces between graduations.**

**Extra large figures and longer graduation lines on bevel of thimble.**

**Rapid reading graduations on thimble.**

**Hardened one-piece spindle with ground threads.**

**Large diameter spindle .270 inch for extra wear.**

**Micro-lap finish on anvil and spindle ends.**

**Ratchet stop enclosed in cap; easier to use.**

**Positive action cam lock nut.**

**Easy to adjust.**

**Non-slip finish on frame; easier to hold. Finished wood case available.**

**A 9-inch standard can be supplied for the 10-inch micrometer, a 10-inch standard for the 11-inch micrometer and a 11-inch standard for the 12-inch micrometer.**

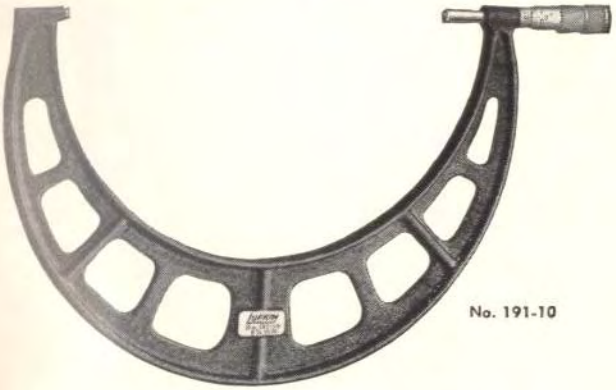
| Measures by 1,000ths Inch | | | Measures by 10,000ths Inch | | | Equipment |
|---|---|---|---|---|---|---|
| Range 9 to 10 Inches | Range 10 to 11 Inches | Range 11 to 12 Inches | Range 9 to 10 Inches | Range 10 to 11 Inches | Range 11 to 12 Inches | |
| No. | No. | No. | No. | No. | No. | |
| **CT194-10** | **CT194-11** | **CT194-12** | **CT194-10V** | **CT194-11V** | **CT194-12V** | With Lock Nut and Ratchet Cap |
| **CT196-10** | **CT196-11** | **CT196-12** | **CT196-10V** | **CT196-11V** | **CT196-12V** | With Friction Thimble and Lock Nu |

Packing: One in a Box.

*FOR PRICES SEE PRICE LIST*

# Chrome Clad Micrometers

## Black Enameled Heavy Duty Ribbed Frame



No. 191-10

A tool designed for production work. It is accurate, strong, durable and built to withstand hard usage. It is also the choice of many students and vocational schools.

**Easy to read. Chrome Clad non-glare satin finish with black filled graduations and figures.**

**Extra large diameter thimble with wider spaces between graduations.**

**Extra large figures and longer graduation lines on bevel of thimble.**

**Rapid reading graduations on thimble.**

**Hardened one-piece spindle with ground threads.**

**Large diameter spindle .270 inch for extra wear.**

**Micro-lap finish on anvil and spindle ends.**

**Ratchet stop enclosed in cap; easier to use.**

**Positive action cam lock nut.**

**Easy to adjust.**

**Non-slip finish on frame; easier to hold.**

**Finished wood case available.**

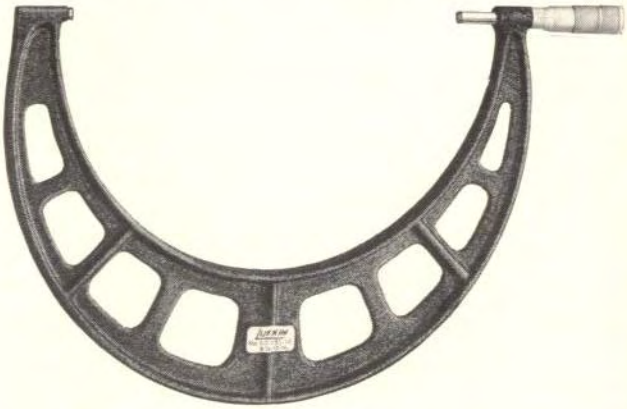
**A 9-inch standard can be supplied for the 10-inch micrometer, a 10-inch standard for the 11-inch micrometer and a 11-inch standard for the 12-inch micrometer.**

| Measures by 1,000ths Inch | | | Measures by 10,000ths Inch | | | Equipment |
|---|---|---|---|---|---|---|
| Range 9 to 10 Inches | Range 10 to 11 Inches | Range 11 to 12 Inches | Range 9 to 10 Inches | Range 10 to 11 Inches | Range 11 to 12 Inches | |
| No. | No. | No. | No. | No. | No. | |
| 191-10<br>192-10<br>194-10 | 191-11<br>192-11<br>194-11 | 191-12<br>192-12<br>194-12 | ..... <br>194-10V | ..... <br>194-11V | ..... <br>194-12V | Plain<br>With Lock Nut<br>With Lock Nut and Ratchet Cap |

Packing: One in a Box.

# Carbide Tipped Chrome Clad Micrometers

## Black Enameled Heavy Duty Ribbed Frame



Micrometer with tungsten carbide tipped anvil and spindle face is recommended for use where severe abrasive conditions exist. Carbide has exceptional hardness and resistance to abrasion.

Designed for production work. Accurate, strong, durable and built to withstand hard usage.

**Easy to read. Chrome Clad non-glare satin finish with black filled graduations and figures.**

**Extra large diameter thimble with wider spaces between graduations.**

**Extra large figures and longer graduation lines on bevel of thimble.**

**Rapid reading graduations on thimble.**

**Hardened one-piece spindle with ground threads.**

**Large diameter spindle .270 inch for extra wear.**

**Micro-lap finish on anvil and spindle ends.**

**Ratchet stop enclosed in cap; easier to use.**

**Positive action cam lock nut.**

**Easy to adjust.**

**Non-slip finish on frame; easier to hold.**

**Individually packed in finished wood case.**

| Measures to 1,000ths | | | | Description |
|---|---|---|---|---|
| Range 12-13 Inches | Range 13-14 Inches | Range 14-15 Inches | Range 15-16 Inches | |
| **CT194-13** | **CT194-14** | **CT194-15** | **CT194-16** | With Lock Nut and Ratchet Cap |
| **WITHOUT CARBIDE TIPS** | | | | |
| **194-13** | **194-14** | **194-15** | **194-16** | With Lock Nut and Ratchet Cap |

*FOR PRICES SEE PRICE LIST*

Memorandum

# Chrome Clad Micrometer Set

## With Tip Attachments

No. 1961BX

Now, with simple, easy-to-use, anvil and spindle attachments, you may convert a regular micrometer with a .270″ diameter anvil and spindle into six special-purpose measuring micrometers. The complete set is equal to seven different micrometers required for all of these measuring applications.

The set consists of a LUFKIN 1961 Chrome Clad Micrometer with a Friction Thimble and Cam Lock features; and the following sets of attachments to convert this micrometer for special purpose measurements:

**1 Pair No. 19T 8-13 Thread Tips**
**1 Pair No. 19T 14-20 Thread Tips**
**1 Pair No. 19T 22-30 Thread Tips**
**1 Pair No. 19T 32-40 Thread Tips**
**1 Pair No. 19P Point Attachments**
**1 Pair No. 19BL Blade Attachments**

Box includes an extra recess for inserting LUFKIN No. 19 Ball Attachment, which used to convert the micrometer for measuring the wall of tubing or other curved surfaces.

**No. 1961BX Micrometer Set**

Packed complete in a fitted, mahogany case. Weight, 1 pound.

*FOR PRICES SEE PRICE LIST*

# Micrometer Tip Attachments

## For All Size Micrometers with .270" Diameter Anvil and Spindle

**THREAD TIP ATTTACHMENTS**—(Pat. Pending)

Adapts a regular outside micrometer for measuring threads. Each tip is approximately .150" long; the set of two are approximately .300". This dimension must be subtracted when a reading is taken. Available in pairs for popular thread sizes and in complete sets of 4 pairs.

**No. 19T** 8-13
**No. 19T** 14-20
**No. 19T** 22-30
**No. 19T** 32-40

**No. 19TS—Set of above four sizes.**

Packed one set in a box.

**BLADE ATTACHMENTS**—(Pat. Pending)

For easy, fast measuring of narrow grooves, slots, keyways, etc. Each blade tip is approximately .250" long. The set of two are approximately .500" long. This dimension must be subtracted when a reading is taken. Blades are $15/64$" wide, $1/32$" thick, and will measure to $3/16$" in depth.

**No. 19BL Blade Attachment.**

Packed one set (2) in a box.

**POINT ATTACHMENTS**—(Pat. Pending)

Can be used for making quick comparisons in cutting screw threads; for measuring web thickness of drills; for small recesses and grooves. Each point is approximately .150" long. The set of two approximately .300". The dimension must be subtracted when a reading is taken.

**No. 19P Point Attachments.**

Packed one set (2) in a box.

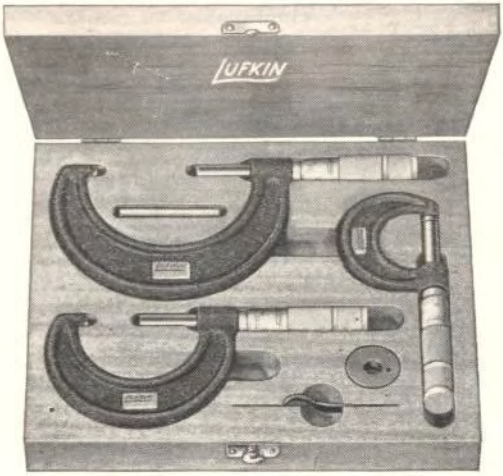
**BALL ATTACHMENT**

Use a ball attachment on your regular micrometer, and it can be used to measure tubing walls and other rounded surfaces. The ball attachment may be applied to either the anvil or the spindle (.270" diameter) or two balls may be used together. Each ball fits freely in its retainer, assuring contact with the anvil or spindle.

**No. 19 Ball Attachment.**

Packed six per box.

# Chrome Clad Micrometer Sets in Wood Cases




**No. 191A**

The cases are solidly constructed of choice hardwood. They are well finished and have hinged cover and clasp. Wood cases accommodate and protect the micrometers when not in use and guard against any of the set or the standards being mislaid or lost.

Standards supplied with all sets unless otherwise specified.

| Set of Three Micrometers—Range, 0 to 3 Inch | | | | |
|---|---|---|---|---|
| Black Enameled, Heavy Duty, Ribbed Frame | | | | Equipment |
| Set No. | Micrometer Nos. | | | |
| | 1-Inch | 2-Inch | 3-Inch | |
| **191A** | 1911 | 1912 | 1913 | Plain |
| **192A** | 1921 | 1922 | 1923 | With Lock Nut |
| **194A** | 1941 | 1942 | 1943 | With Lock Nut & Ratchet Cap |
| **196A** | 1961 | 1962 | 1963 | With Friction Thimble & Lock Nut |

**Notes:** Micrometers measuring to 10,000ths of an inch can be supplied at extra cost; add suffix "V" to No. such as 191V-A.

Carbide tipped measuring faces can be supplied at extra cost; add prefix "CT" to No.

Packing: One Set in a Box.

# Chrome Clad Micrometer Sets in Wood Cases

The cases are solidly constructed of choice hardwood. They are well finished and have hinged cover and clasp. Wood cases accommodate and protect the micrometers when not in use and guard against any of the set or the standards being mislaid or lost.

Standards supplied with all sets unless otherwise specified.


No. 191C

Set of 4 Micrometers—Range, 0 to 4 Inch—Black Enameled, Heavy Duty, Ribbed Frame

| Set No. | Micrometer Nos. | | | | Equipment |
|---|---|---|---|---|---|
| | 1-Inch | 2-Inch | 3-Inch | 4-Inch | |
| **191B** | 1911 | 1912 | 1913 | 1914 | Plain |
| **192B** | 1921 | 1922 | 1923 | 1924 | With Lock Nut |
| **194B** | 1941 | 1942 | 1943 | 1944 | With Lock Nut & Ratchet Cap |
| **196B** | 1961 | 1962 | 1963 | 1964 | With Friction Thimble & Lock Nut |

Set of 6 Micrometers—Range, 0 to 6 Inch—Black Enameled, Heavy Duty, Ribbed Frame

| Set No. | Micrometer Nos. | | | | | | Equipment |
|---|---|---|---|---|---|---|---|
| | 1-Inch | 2-Inch | 3-Inch | 4-Inch | 5-Inch | 6-Inch | |
| **191C** | 1911 | 1912 | 1913 | 1914 | 1915 | 1916 | Plain |
| **192C** | 1921 | 1922 | 1923 | 1924 | 1925 | 1926 | With Lock Nut |
| **194C** | 1941 | 1942 | 1943 | 1944 | 1945 | 1946 | With Lock Nut & Ratchet Cap |
| **196C** | 1961 | 1962 | 1963 | 1964 | 1965 | 1966 | With Friction Thimble & Lock Nut |

**Notes:** Micrometers measuring to 10,000ths of an inch can be supplied at extra cost; add suffix "V" to No., such as 191V-B.

Can be supplied with carbide tipped measuring faces at extra cost; add prefix "CT" to No.

Packing: One Set in a Box.

# Chrome Clad Micrometer Sets in Wood Cases


No. 191D

The cases are solidly constructed of cho hardwood. They are well finished and equipped with a hinged cover and a good lo Wood cases give good protection to the to when not in use. A separate rack is furnished the standards.

Standards supplied with all sets unless oth wise specified.

**Notes:** Micrometers measuring to 10,000ths an inch can be supplied at extra cost; add su "V" to No., such as 191V-E.

Can be supplied with carbide tipped meas ing faces at extra cost; add prefix "CT" to N

Set of Six Micrometers—Range, 6 to 12 Inch

| Set Micrometer Inches | Set No. | | |
|---|---|---|---|
| | **191D,** Plain | **192D,** with Lock Nut | **194D,** with Ratchet Cap & Lock Nut |
| **7** | 1917 | 1927 | 1947 |
| **8** | 1918 | 1928 | 1948 |
| **9** | 1919 | 1929 | 1949 |
| **10** | 191-10 | 192-10 | 194-10 |
| **11** | 191-11 | 192-11 | 194-11 |
| **12** | 191-12 | 192-12 | 194-12 |

Set of 12 Micrometers—Range, 0 to 12 Inch

| Size Micrometer Inches | Set No. | | |
|---|---|---|---|
| | **191E,** Plain | **192E,** with Lock Nut | **194E,** with Ratchet Cap & Lock Nut |
| **1** | 1911 | 1921 | 1941 |
| **2** | 1912 | 1922 | 1942 |
| **3** | 1913 | 1923 | 1943 |
| **4** | 1914 | 1924 | 1944 |
| **5** | 1915 | 1925 | 1945 |
| **6** | 1916 | 1926 | 1946 |
| **7** | 1917 | 1927 | 1947 |
| **8** | 1918 | 1928 | 1948 |
| **9** | 1919 | 1929 | 1949 |
| **10** | 191-10 | 192-10 | 194-10 |
| **11** | 191-11 | 192-11 | 194-11 |
| **12** | 191-12 | 192-12 | 194-12 |

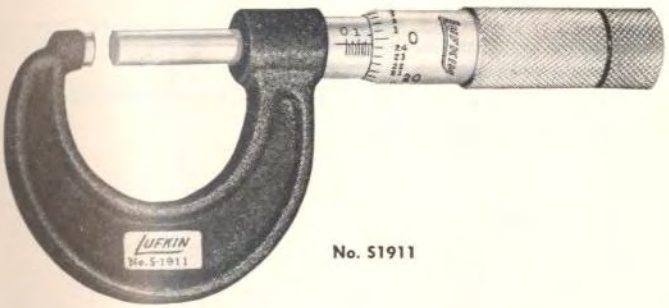
Packing: One Set in a Box.

FOR PRICES SEE PRICE LIST

# Stainless Steel Micrometer Calipers

(Patented)

## Black Enameled Heavy Duty Ribbed Frame




No. S1911

A strong and durable tool designed for production work. Hub, thimble and spindle are stainless steel, a valuable asset in certain industries and climatic conditions. Lufkin stainless steel micrometers will not rust or stain, assuring long life and dependable service. This smooth working micrometer has the easiest method of adjustment.

**Rapid reading graduations on thimble.**

**Thimble and hub of stainless steel.**

**Hardened one-piece spindle with ground threads.**

**Large diameter spindle .270 inch for extra service.**

**Micro-lap finish on anvil and spindle ends.**

**Non-slip finish on frame; easier to hold.**

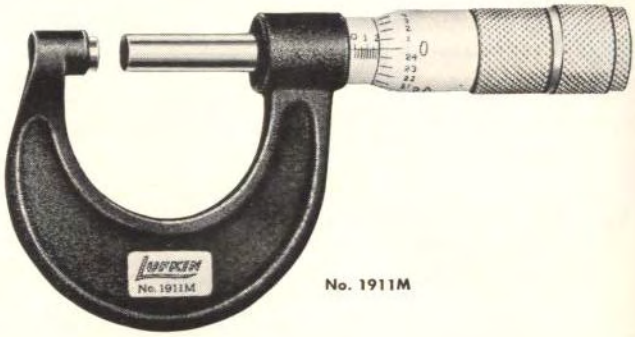
| Measures by 1,000ths Inch | | | | | |
|---|---|---|---|---|---|
| Range 0 to 1 Inch No. | Range 1 to 2 Inches No. | Range 2 to 3 Inches No. | Range 3 to 4 Inches No. | Range 4 to 5 Inches No. | Equipment |
| S1911<br>S1921 | S1912<br>S1922 | ..... S1923 | ..... S1924 | ..... S1925 | Plain<br>With Lock Nut |

Packing: One in a Box.

# Chrome Clad Micrometers

## Metric Graduations

## Black Enameled Heavy Duty Ribbed Frame




No. 1911M

A tool designed for production work. It is accurate, strong, durable and built to withstand hard usage. It is also the choice of many students and vocational schools.

**Easy to read. Chrome Clad non-glare satin finish with black filled graduations and figures.**

**Extra large diameter thimble with wider spaces between graduations.**

**Extra large figures and longer graduation lines on bevel of thimble.**

**Rapid reading graduations on thimble.**

**Hardened one-piece spindle with ground threads.**

**Large diameter spindle. 270-inch for extra wear.**

**Micro-lap finish on anvil and spindle ends.**

**Ratchet stop enclosed in cap; easier to use.**

**Positive action cam lock nut.**

**Easy to adjust.**

**Non-slip finish on frame; easier to hold.**

**Plush lined cases for the 0-25MM and 25-50MM micrometers and finished wood cases for larger sizes are available. Micrometer sets are packed in wood case.**

### Measures in 100ths of a Millimeter

| Range | Plain No. | With Ratchet Cap & Locknut No. | Micrometer Sets |
|---|---|---|---|
| **0- 25MM** | **1911M** | **1941M** | No. **194AM** Range |
| **25- 50MM** | | **1942M** | 0-75MM |
| **50- 75MM** | | **1943M** | No. **194BM** Range |
| **75-100MM** | | **1944M** | 0-100MM |

Packing: One in a Box.

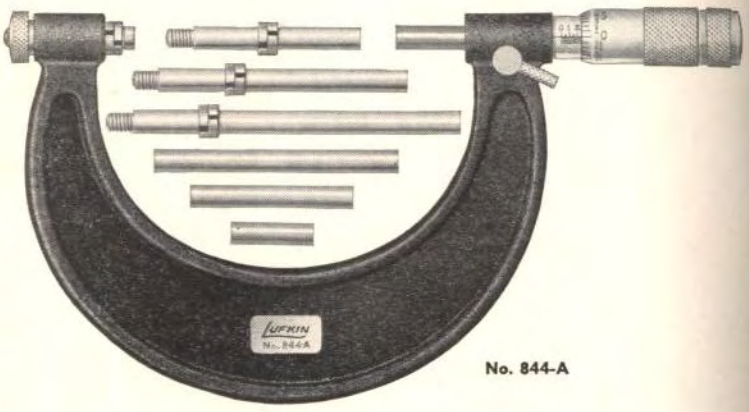
*FOR PRICES SEE PRICE LIST*

Memorandum

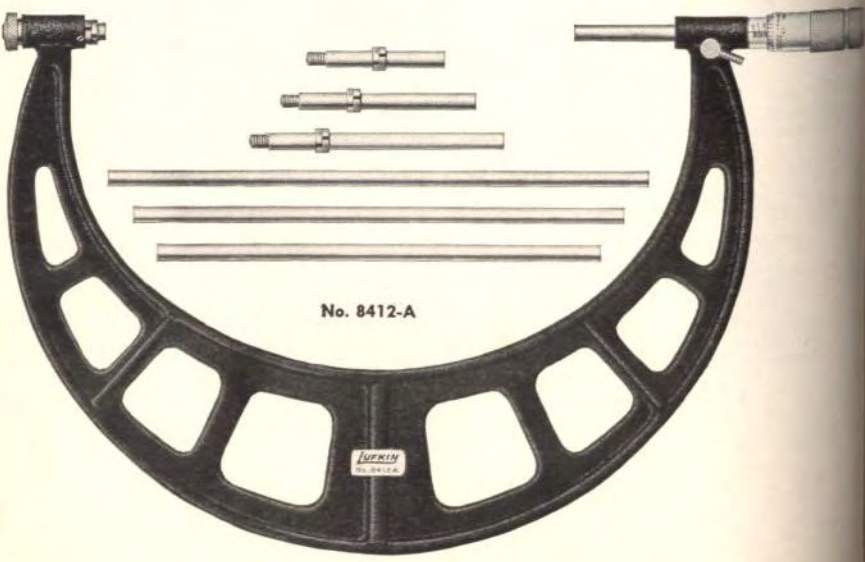
# Chrome Clad Micrometers With Interchangeable Anvils

(Patented)

**Heavy Duty Ribbed Frame**




**No. 844-A**




**No. 8412-A**

# Chrome Clad Micrometers with Interchangeable Anvils

(Patented)

## Black Heavy Duty Ribbed Frame

Lufkin Micrometers with interchangeable anvils are popular in many auto and machine shops. Each micrometer is supplied with a set of readily interchangeable anvils permitting a wide range of measure. The anvils are accurately and securely held in place by a knurled nut at the outer end of the anvil and an adjusting nut at the base of the anvil. The frame used on micrometers through 9-inch is of "I" bar construct on, rigid and sturdy. The 9 to 12-inch range have sturdy, perforated, rigid ribbed frames. This micrometer has the same smooth action and adjustment features as other Lufkin micrometers.

Standards are supplied with micrometers.

**Easy to read. Chrome Clad non-glare satin finish with black filled graduations and figures.**

**Extra large diameter thimble with wider spaces between graduations.**

**Extra large figures and longer graduation lines on bevel of thimble.**

**Rapid reading graduations on thimble.**

**Hardened one-piece spindle with ground threads.**

**Spindle diameter, .270 inch.**

**Micro-lap finish on anvil and spindle ends.**

**Ratchet stop enclosed in cap; easier to use.**

**Positive action lock nut.**

**Easy to adjust.**

**Non-slip finish on frame; easier to hold.**

| For Measuring by 1,000ths Inch | | |
|---|---|---|
| Range | Number | Equipment |
| 0 to 4 Inches | **844A** | Cam with Lock and Ratchet Cap |
| 2 to 6 Inches | **846A** | |
| 6 to 9 Inches | **849A** | |
| 9 to 12 Inches | **8412A** | |
| 6 to 12 Inches | **8412AX** | |
| 12 to 16 Inches | **8416A** | |

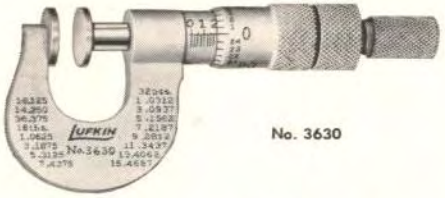
Packing: One in a Hinged Wooden Box, with Clasp.



FOR PRICES SEE PRICE LIST

# Chrome Clad Paper Gage Micrometers

### Full Finished Frame




No. 3630

Used in measuring the thickness of paper, sheet rubber, cardboard and other soft materials. Furnished with anvil and spindle faces $^{7}/_{16}$ inch in diameter so that accurate measurements can be taken without compressing the article measured.

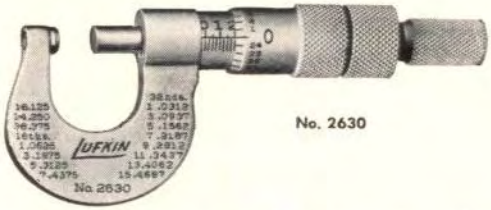
**Easy to read.** Chrome Clad non-glare satin finish with black filled graduations and figures.
**Rapid reading** graduations on thimble.
**Hardened one-piece spindle** with ground threads.
**Table of decimal equivalents** of 8ths, 16ths, 32nds and 64ths is marked on the frame.
**Easy to adjust.**
**Finger ring** can be furnished; please specify.

| Range Inches | No. | Measures by | Equipment |
|---|---|---|---|
| 0 to ½ | **3630** | 1,000ths of an Inch | With Ratchet Stop |
| 0 to ½ | **3630F** | 1,000ths of an Inch | With Ratchet Stop and Finger Ring |

Packing: One in a Box.

# Chrome Clad Tubing Micrometers

### ½-Inch • Full Finished Tapered Frame




No. 2630

For accurately measuring thickness of tubing, etc., in range from 0 to ½ inch. Will measure tubing down to $^{5}/_{16}$ inch inside diameter. For measuring by thousandths of an inch.

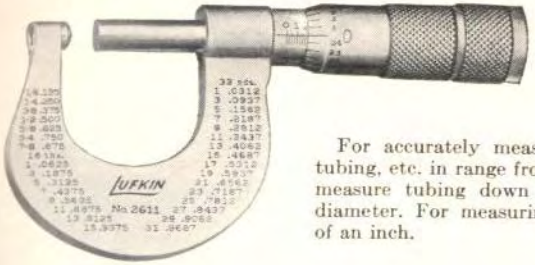
**Easy to read.** Chrome Clad non-glare satin finish with black filled graduations and figures.
**Rapid reading** graduations on thimble.
**Hardened one-piece spindle** with ground threads.
**Spindle diameter,** .195 inch.
**Spindle end is flat and anvil end is rounded** permitting contact at only one point on the inside of tube, giving exact thickness.
**Table of decimal equivalents** of 8ths, 16ths, 32nds and 64ths is marked on the frame.
**Micro-lap finish** on spindle end.
**Easy to adjust.**

No. **2610,** Tubing Micrometer, Plain.
No. **2630,** Tubing Micrometer, with Ratchet Stop.

*FOR PRICES SEE PRICE LIST*

## Chrome Clad Tubing Micrometers

**1-Inch Full Finished Tapered Frame**




**No. 2611**

For accurately measuring thickness of tubing, etc. in range from 0 to 1 inch. Will measure tubing down to ⅜ inch inside diameter. For measuring by thousandths of an inch.

- **Easy to read. Chrome Clad non-glare satin finish with black filled graduations and figures.**
- **Extra large diameter thimble with wider spaces between graduations.**
- **Extra large figures and longer graduation lines on bevel of thimble.**
- **Hardened one-piece spindle with ground thread.**
- **Spindle diameter, .250 inch.**
- **Spindle end is flat and anvil end is rounded permitting contact at only one point on the inside of the tube, giving exact thickness.**
- **Table of decimal equivalents of 8ths, 16ths, 32nds and 64ths is marked on the frame.**
- **Micro-lap finish on spindle end.**
- **Ratchet stop enclosed in cap; easier to use.**
- **Easy to adjust.**

No. **2611,** Tubing Micrometer, Plain.

No. **2631,** Tubing Micrometer, with Ratchet Cap.

## Chrome Clad Tubing Micrometers

**1-Inch Black Enameled Heavy Duty Ribbed Frame**


**No. 2911**

For accurately measuring thickness of tubing, etc. in range from 0 to 1 inch. Will measure tubing down to ½ inch inside diameter. For measuring by thousandths of an inch.

- **Easy to read. Chrome Clad non-glare satin finish with black filled graduations and figures.**
- **Extra large diameter thimble with wider spaces between graduations.**
- **Extra large figures and longer graduation lines on bevel of thimble.**
- **Hardened one-piece spindle with ground threads.**
- **Spindle diameter, .270 inch.**
- **Spindle end is flat and anvil end is rounded permitting contact at only one point on the inside of the tube, giving exact thickness.**
- **Micro-lap finish on spindle end.**
- **Ratchet stop enclosed in cap; easier to use.**
- **Easy to adjust.**
- **Non-slip finish on frame; easier to hold.**

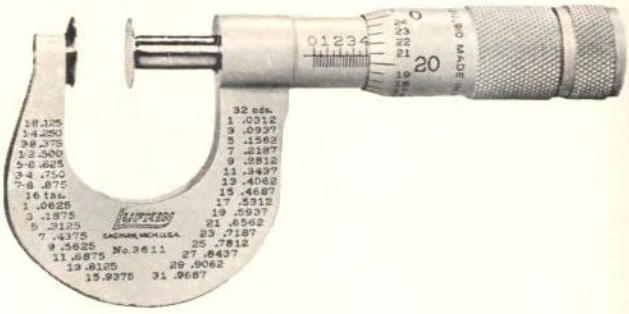
No. **2911,** Tubing Micrometer, Plain.

No. **2931,** Tubing Micrometer, with Ratchet Cap

Packing: One in a Box.

# Chrome Clad Micrometers

## With Disc Measuring Faces




For measuring gear teeth, forming tools, dies, etc., that are inaccessible to regular micrometers. Will measure to a depth of ⅛ inch on forms with grooves larger than .015 inch. Measuring discs are ½ inch diameter, are .015 inch thick at the outer edge and 1/16 inch thick at the center.

**Easy to read. Chrome Clad non-glare satin finish with black filled graduations and figures.**

**Extra large diameter thimble with wider spaces between graduations.**

**Extra large figures and longer graduation lines on bevel of thimble.**

**Rapid reading graduations on thimble.**

**Hardened one-piece spindle with ground threads.**

**Diameter spindle, .250 inch.**

**Table of decimal equivalents of 8ths, 16ths, 32nds and 64ths is marked on the frame.**

**Micro-lap finish on measuring faces.**

**Easy to Adjust.**

| Number | Range Inches | Measures |
|---|---|---|
| **3611** | 0 to 1 | By 1000ths inch |
| **3612** | 1 to 2 | By 1000ths inch |

***FOR PRICES SEE PRICE LIST***

# Chrome Clad Deep Throat Micrometers

## Black Enameled Heavy Duty Ribbed Frame


Designed especially for gaging the thickness of metal sheets and plates, and for other applications requiring a micrometer with a deep throat. Deep throat permits measurements up to 3¼ inches from the edge of the work.

**Easy to read. Chrome Clad non-glare satin finish with black filled graduations and figures.**

**Extra large diameter thimble with wider spaces between graduations.**

**Extra large figures and longer graduation lines on bevel of thimble.**

**Rapid reading graduations on thimble.**

**Hardened one-piece spindle with ground threads.**

**Large diameter spindle .270 inch for extra wear.**

**Micro-lap finish on anvil and spindle ends.**

**Ratchet stop enclosed in cap; easier to use.**

**Easy to adjust.**

**Non-slip finish on frame; easier to hold.**

| Number | Range | Description |
|---|---|---|
| **3931** | 0 to 1 inch | With Ratchet Cap |

Packing: One in a Box.



FOR PRICES SEE PRICE LIST

# Chrome Clad Hole Locating and Tubing Micrometer

## Black Enameled Heavy Duty Ribbed Frame


No. 2931L

Determining the wall thickness of small diameter tubing; gaging distance of a hole from the edge; and checking slots and grooves are some of the many uses of the LUFKIN Hole Locating and Tubing Micrometer.

It has a rigidly supported, small diameter (.125 inch) anvil mounted at a right angle to the spindle in a special half frame. The hardened anvil is small enough to enter a 5/32-inch I.D. hole or slot. Held with a set screw, the anvil can be easily and quickly replaced in case of wear or breakage.

**Easy to read. Chrome Clad non-glare satin finish with black filled graduations and figures.**

**Extra large diameter thimble with wider spaces between graduations.**

**Extra large figures and longer graduation lines on bevel of thimble.**

**Rapid reading graduations on thimble.**

**Hardened one-piece spindle with ground threads.**

**Large diameter spindle .270 inch for extra wear.**

**Micro-lap finish on spindle end.**

**Ratchet stop enclosed in cap; easier to use.**

**Easy to adjust.**

**Non-slip finish on frame; easier to hold.**

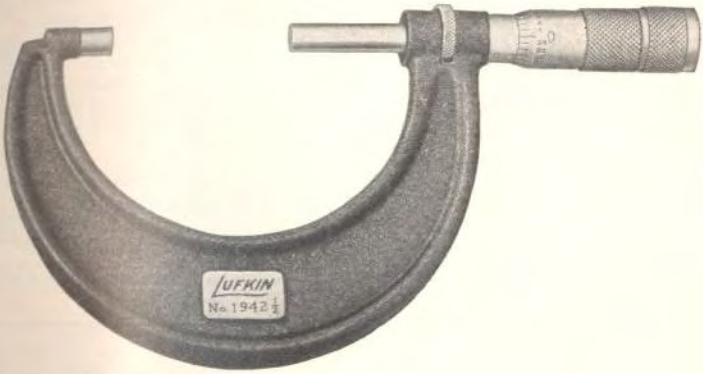
| Measures to 1,000ths Inch | | |
|---|---|---|
| Number | Description | Range |
| **2931L** | With Ratchet Cap | 0 to 1" |

Packing: One in a Box.

***FOR PRICES SEE PRICE LIST***

# No. 1942½ Chrome Clad Crankshaft Micrometer

## Heavy Duty Rigid Ribbed Frame




A custom designed micrometer for crankshaft measuring by thousandths of an inch.

Graduations are on the under side of the hub, plainly visible for accurate measurements without removing micrometer from the work. This micrometer has the same smooth action and improved adjustment features as other Lufkin micrometers. Extended anvil and special length give good depth clearance.

Finished wood case for this micrometer is furnished only when ordered.

- asy to read. Chrome Clad non-glare satin finish with black filled graduations and figures.
- xtra large diameter thimble with wider spaces between graduations.
- xtra large figures and longer graduation lines on bevel of thimble.
- lon-slip finish on frame; easier to hold.
- Rapid reading graduations on thimble.
- Hardened one-piece spindle with ground threads.
- Micro-lap finish on anvil and spindle ends.
- Ratchet stop enclosed in cap; easier to use.
- Positive action lock nut.
- Easy to adjust.

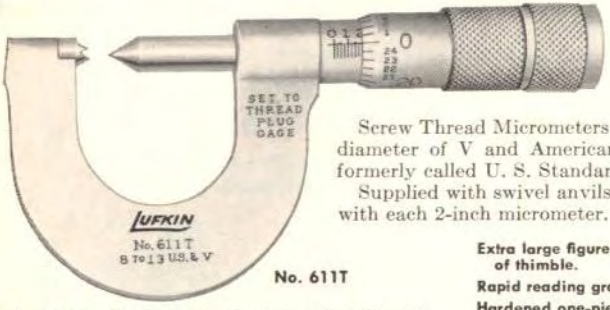
No. **1942½,** Crankshaft Micrometer with Lock Nut and Ratchet Cap. Range: 1½ to 2½ Inches. 2-Inch Standard. (Supplied Only When Ordered.)



Packing: One in a Box.

FOR PRICES SEE PRICE LIST

# Chrome Clad Screw Thread Micrometers With Swivel Anvi




No. 611T

**Full Finished Frame**

Screw Thread Micrometers are used for measuring the p diameter of V and American National (American Nati formerly called U. S. Standard) form of screw threads.

Supplied with swivel anvils. A 1-inch standard is furni with each 2-inch micrometer.

**Easy to read. Chrome Clad non-glare satin finish with black filled graduations and figures.**

**Extra large diameter thimble with wider spaces between graduations.**

**Extra large figures and longer graduation lines on b of thimble.**

**Rapid reading graduations on thimble.**

**Hardened one-piece spindle with ground threads.**

**Spindle and anvil ends are shaped to conform t standard angle of threads for which they are sele**

**Easy to adjust.**

For Measuring by 1,000ths Inch

| 1-Inch Capacity | | 2-Inch Capacity | |
|---|---|---|---|
| No. | Range of Threads per Inch | No. | Range of Threads per Inch |
| **611T 8-13** | 8-13 | **612T 4½-7** | 4½-7 |
| **611T 14-20** | 14-20 | **612T 8-13** | 8-13 |
| **611T 22-30** | 22-30 | **612T 14-20** | 14-20 |
| **611T 32-40** | 32-40 | **612T 22-30** | 22-30 |

**Always specify range of threads in addition to stock number just as underscored.**

# Chrome Clad Thread Comparator Micrometers

(Patented)

**Heavy Duty Rigid Ribbed Frame**


No. 1911C

This is a micrometer of many uses. It suited for making quick comparisons in ting screw threads, for measuring web, th ness of drills and taps and for measurin small grooves and recesses where a reg micrometer cannot be used. For measurin thousandths of an inch.

Anvil and spindle faces are conical, p about 1/64-inch flat rather than sharp. Micro ter is set at zero when anvil and spindle a contact. This smooth working micrometer the easiest method of adjustment.

**Easy to read. Chrome Clad non-glare satin finish with black filled graduations and figures.**

**Extra large diameter thimble with wider spaces between graduations.**

**Extra large figures and longer graduation lines on bevel of thimble.**

**Rapid reading graduations on thimble.**

**Hardened one-piece spindle with ground threads.**

**Easy to adjust.**

No. **1911C,** Plain. Range: 0 to ⅞ Inch.

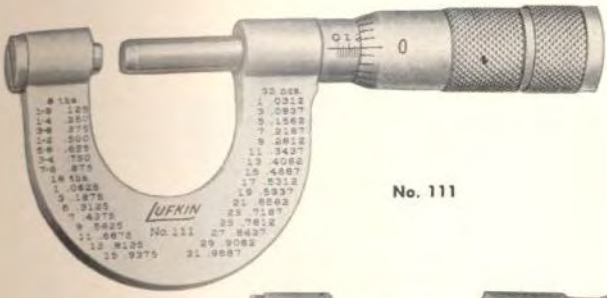
No. **1912C,** Plain. Range: 1 to 2 Inche

Packing: One in a Box.

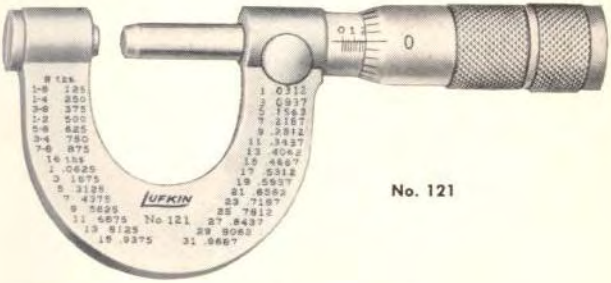
***FOR PRICES SEE PRICE LIST***

# Chrome Clad Millmens Micrometers

## 1-Inch • Full Finished Frame




No. 111




No. 121

Specifically designed for rapid gaging of hot or cold metals. For measuring by thousandths of an inch. Range, 0 to 1 inch.

**Easy to read. Chrome Clad non-glare satin finish with black filled graduations and figures.**

**Extra large diameter thimble with wider spaces between graduations.**

**Extra large figures and longer graduation lines on bevel of thimble.**

**Hardened one-piece spindle with ground threads.**

**Spindle diameter, .270 inch.**

**Long bevel on anvil and spindle permits easy access to the work.**

**Table of decimal equivalents of 8ths, 16ths, 32nds, and 64ths is marked on the frame.**

**Micro-lap finish on anvil and spindle ends.**

**Screw nut will not loosen from effects of heat.**

**Easy to adjust.**

Adjustment of micrometer is fast, simple and positive. To adjust the anvil, remove the anvil lock screw at outer end of frame with a screwdriver. Turn spindle to zero. Turn anvil adjusting screw until anvil makes contact with the spindle. Replace anvil lock screw. This screw locks the anvil in proper position as well as serving as a protective cap. In addition to the anvil adjustment the micrometer has the same spindle adjustment as our standard outside micrometers.

No. **111,** Millmens Micrometer, Plain.

No. **121,** Millmens Micrometer, with Thumb Screw Lock Nut.

Packing: One in a Box.



FOR PRICES SEE PRICE LIST

# No. 121H Chrome Clad Millmens Micrometer with Handle for Gaging Hot Metals

**1-Inch • Full Finished Frame**

Specifically designed for rapid gaging of hot metals. For measuring by thousandths of an inch. Range, 0 to 1 inch.

**Easy to read. Chrome Clad non-glare satin finish with black filled graduations and figures.**

**Extra large diameter thimble with wider spaces between graduations.**

**Extra large figures and longer graduation lines on bevel of thimble.**

**Hardened one-piece spindle with ground threads.**

**Spindle diameter, .270 inch.**

**Long bevel on anvil and spindle permits easy access to the work.**

**Table of decimal equivalents of 8ths, 16ths, 32nds a 64ths is marked on the frame.**

**Micro-lap finish on anvil and spindle ends.**

**Screw nut will not loosen from effects of heat.**

**Wing head lock nut is easier to grasp and lock and easily released even with gloved hand.**

**Easy to adjust.**

**Ample size hardwood handle is securely fastened.**

Adjustment of micrometer is fast, simple and positive. To adjust anvil, remove the anvil lock screw at outer end of the frame with a screwdriver. Turn spindle to zero. Turn anvil adjusting screw until anvil makes contact with spindle. Replace anvil lock screw. This screw locks the anvil in proper position as well as serving as a protective cap. In addition to the anvil adjustment this micrometer has same spindle adjustment as our standard outside micrometers.

No. **121H,** Millmens Micrometer with Handle for Gaging Hot Metals.

Packing: One in a Box.

***FOR PRICES SEE PRICE LIST***

# Chrome Clad Millmens Micrometers with Handle for Gaging Hot Metals

## Extra Heavy Duty Ribbed Frame


No. 920BH

Specifically designed for rapid gaging of hot metals. For measuring by thousandths of an inch. Same spindle adjustment as our standard outside micrometers.

- Easy to read. Chrome Clad non-glare satin finish with black filled graduations and figures.
- Extra large diameter thimble with wider spaces between graduations.
- Extra large figures and longer graduation lines on bevel of thimble.
- Hardened one-piece spindle with ground threads.
- Spindle diameter, .270 inch.
- Long bevel on anvil and spindle permits easy access to the work.
- Micro-lap finish on anvil and spindle ends.
- Screw nut will not loosen from effects of heat.
- Wing head lock nut is easier to grasp and lock and is easily released even with gloved hand.
- Easy to adjust.
- Ample size hardwood handle is securely fastened.

No. **920BH**, Millmens Micrometer. Range, 0 to ½ Inch.

No. **921BH**, Millmens Micrometer. Range, 0 to 1 Inch.

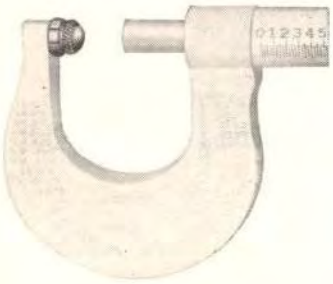
Packing: One in a Box.



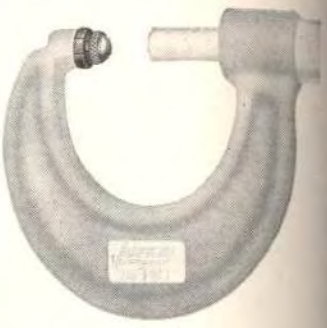
FOR PRICES SEE PRICE LIST

# Ball Attachments for Micrometers

### Fit Anvil or Spindle



No. 16



No. 19

Your regular micrometer can have added utility. Using a ball attachment with your regular micrometer, it can be used for measuring tubing walls and other rounded surfaces.

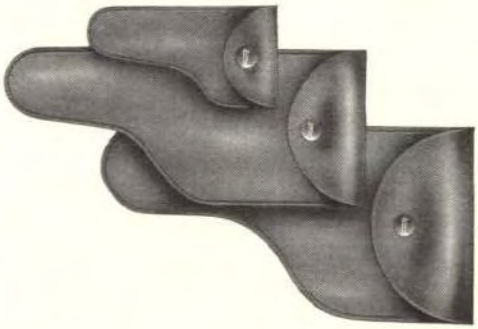
Lufkin ball attachments are easily applied to anvil or spindle or two balls can be used together.

Each ball fits freely in its retainer insuring contact with anvil or spindle.

Balls are .200-inch diameter, necessitating subtracting .200-inch from reading for each ball used. The ball diameter, .200-inch, is an outstanding feature because it is a simple even numbered figured to subtract.

| No. | For Micrometer Series | Fits Anvil or Spindle Diameter, Inches | No. in Box |
|---|---|---|---|
| **16** | 1600 | .250 | 6 |
| **19** | 1900 | .270 | 6 |

# Flexible Cases for Micrometers



These cases are light and flexible. Suitable for pocket use as well as protecting tool from scratches and other damage resulting from contact with other tools. Equipped with snap fastener.

| Size Case Inches | For Micrometer Series | No. in Box |
|---|---|---|
| ½ | 1600 | 1 |
| **1** | 1600, and 1900 | 1 |
| **2** | 1600, and 1900 | 1 |

FOR PRICES SEE PRICE LIST

## Plush-Lined Leather Cases for Micrometers

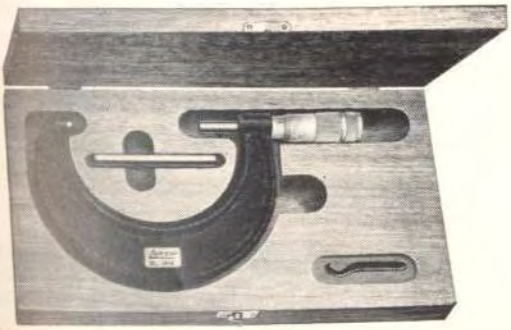
A rigid, fine appearing case affording best protection for micrometers because dust, dirt and grit are excluded. Also protects tool from scratches and other damage resulting from contact with other tools.

These fitted cases are solidly constructed with square edges and rounded corners. Lined with black plush. Outside covered with black, seal-grain genuine leather.

Cover is hinged and has slide clasp.

No. **91**, Plush Lined Case for One-Inch Micrometers.
No. **92**, Plush Lined Case for Two-Inch Micrometers.

## Finished Wood Cases for Larger Size Micrometers



A well finished, substantial case made of choice hardwood. They have a hinged cover and clasp.

Wood Case for Three-Inch Micrometers.
Wood Case for Four-Inch Micrometers.
Wood Case for Five-Inch Micrometers.
Wood Case for Six-Inch Micrometers.
Wood Case for Seven-Inch Micrometers.

Longer tool life can be expected if the tool is properly protected from dust and grit.

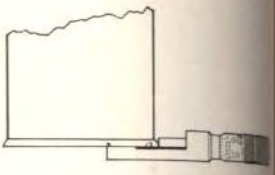
Wood Case for Eight-Inch Micrometers.
Wood Case for Nine-Inch Micrometers.
Wood Case for Ten-Inch Micrometers.
Wood Case for Eleven-Inch Micrometers.
Wood Case for Twelve-Inch Micrometers.
Wood Case for Thirteen-Inch Micrometers.
Wood Case for Fourteen-Inch Micrometers.
Wood Case for Fifteen-Inch Micrometers.
Wood Case for Sixteen-Inch Micrometers.



Packing: One in a Box.

FOR PRICES SEE PRICE LIST

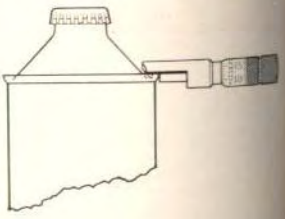
## Chrome Clad Stainless Steel Can Seam Micrometer



This micrometer was designed specifically for the canning industry for measuring seams on most types of cans. These micrometers have the same ease of adjustment feature as regular micrometers. Chrome clad non-glare satin finish with black filled graduations and figures. Range—0–½ in.

No. **5610** Stainless Steel Seam Micrometer

## Chrome Clad Snub Nose Can Seam Micrometer



Specifically designed for pressure and aerosol type cans and general use in manufacture of cans and canning plants. These micrometers have the same ease of adjustment feature as regular micrometers. Chrome clad non-glare satin finish with black filled graduations and figures. Range—0–½ in.

No. **4610** Snub Nose Seam Micrometer

*FOR PRICES SEE PRICE LIST*

## Memorandum

# Chrome Clad Micrometer Heads

## ½-Inch

No. 010

Lufkin Micrometer Heads are readily attached to machine tools, special gages, etc., where micrometer accuracy is required. Have same improved adjustment features as other outside Lufkin micrometers. When the half-inch micrometer head is set at zero, the spindle extends 9/16 inch. When desired heads can be furnished with ¾ in. spindle extension at no extra charge. The length of the lower end of the hub or clamping surface is 25/64 inch and the diameter is .3755 inch. These heads can be furnished with Carbide Tips.

**Easy to read. Chrome Clad non-glare satin finish with black filled graduations and figures.**

**Rapid reading graduations on thimble.**

**Hardened one-piece spindle with ground threads.**

**Spindle diameter, .195 inch.**

**Micro-lap finish on spindle end. Easy to adjust.**

| For Measuring by 1,000ths Inch | | For Measuring by 10,000ths Inch | | Equipment |
|---|---|---|---|---|
| Range, In. | No. | Range, In. | No. | |
| 0 to ½ | **010** | 0 to ½ | **010V** | Plain |
| 0 to ½ | **010R** | | | Plain, with 1/8" Radius on Measuring Faces |
| 0 to ½ | **020** | 0 to ½ | | With Locknut |
| 0 to ½ | **030** | 0 to ½ | **030V** | With Ratchet Stop |
| 0 to ½ | **S010** | 0 to ½ | **S010V** | **Stainless Steel**—Plain |
| 0 to ½ | **S020** | 0 to ½ | | **Stainless Steel**—With Lock Nut |

# Chrome Clad Micrometer Heads

## 1-Inch

No. 011

These Lufkin Micrometer Heads are readily attached to machine tools, special gages, etc., where micrometer accuracy is required. They are smooth working with an easy method of adjustment. When the 1-inch micrometer head is set at zero, the spindle extends 1 1/16 inches. The length of the lower end of the hub or clamping surface is ¾ in.; the diameter is .3755 in. These heads can be furnished with Carbide Tips.

**Easy to read. Chrome Clad non-glare satin finish with black filled graduations and figures.**

**Extra large diameter thimble with wider spaces between graduations.**

**Extra large figures and longer graduation lines on bevel of thimble.**

**Hardened one-piece spindle with ground threads.**

**Spindle diameter, .250 inch.**

**Micro-lap finish on spindle end.**

**Ratchet stop enclosed in cap; easy to use.**

**Positive action lock nut.**

**Easy to adjust.**

| For Measuring by 1,000ths Inch | | For Measuring by 10,000ths Inch | | Equipment |
|---|---|---|---|---|
| Range, In. | No. | Range, In. | No. | |
| 0 to 1 | **011** | 0 to 1 | **011V** | Plain |
| 0 to 1 | **011R** | | | Plain, with 1/32" Radius on Measuring Faces |
| 0 to 1 | **021** | 0 to 1 | **021V** | With Lock Nut |
| 0 to 1 | **031** | 0 to 1 | **031V** | With Ratchet Cap |
| 0 to 1 | **041** | 0 to 1 | **041V** | With Lock Nut and Ratchet Cap |
| 0 to 1 | **S011** | 0 to 1 | **S011V** | **Stainless Steel**—Plain |

**Lufkin is prepared to design and manufacture heads for special applications. Write direct to the factory for recommendations and quotations on your requirements.**

*FOR PRICES SEE PRICE LIST*

## 2-Inch Micrometer Head

No. 012

This Micrometer Head has a 2″ range for those applications requiring a longer spindle travel. Readily attaches to special gages and fixtures, machine tools and other equipment where micrometer accuracy is required.

Markings on the hub read left to right, with the spindle receding into the head as the reading increases.

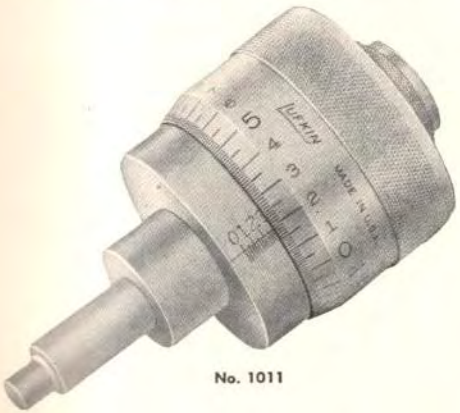
Chrome Clad finish on thimble and hub. Easy-to-read, jet black markings with each thousandth numbered.

### SPECIFICATIONS

Range: 0 to 2 inches. Spindle Length at 0″: 2 1/16″. Spindle Diameter: .250″. Clamping Surface, Length: 3/4″. Diameter: .3755″.

| Equipment | Measure to .001 | Measure to .0001 |
|---|---|---|
| | Number | Number |
| Plain<br>Lock Nut | 012<br>022 | 012V |

**Lufkin is prepared to design and manufacture heads for special applications. Write direct to the factory for recommendations and quotations on your requirements.**




No. 1011

## Chrome Clad Large Micrometer Head

The No. 1011 large diameter micrometer head is designed for applications requiring extra-fine adjustment, such as electronic equipment. It is also used on special gages and tools, fixtures, and various machine tools. Direct reading to 10,000ths of an inch.

The No. 1011 reads from left to right—the spindle recedes into the head as the reading increases. Also available with markings on hub reading both ways (Order No. 1011B).

Thimble is 2 3/16″ diameter, with widely spaced, easy-to-read black markings.

### SPECIFICATIONS

Range: 0 to 1″. Measures: By .0001″. Spindle: Length overall at 0″, 1 25/64″. Length of small end, 3/8″. Diameter: 1/2″; at small end, 3/8″. Clamping surface: Diameter, 1″; Length, 5/8″.



**Lufkin is prepared to design and manufacture heads for special applications. Write direct to the factory for recommendations and quotations on your requirements.**

## Memorandum

# Chrome Clad Metric Micrometer Heads

No. 011M

**Easy to read. Chrome Clad non-glare satin finish with black filled graduations and figures.**

**Rapid reading graduations on thimble.**

**Hardened one-piece spindle with ground threads.**

**Micro-lap finish on spindle end. Easy to adjust.**

Lufkin Micrometer Heads are readily attached to machine tools, special gages, etc., where micrometer accuracy is required. Have same improved adjustment features as other outside Lufkin micrometers.

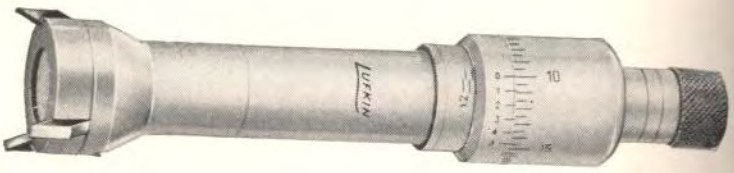
When the 13 mm. micrometer head is set at zero, the spindle extends 14.3 mm. The length of the lower end of the hub or clamping surface is 10 mm. and the diameter is 9.5 mm. Spindle diameter, .195 inch.

When the 25 mm. micrometer head is set at zero the spindle extends 27 mm. The length of the lower end of the hub or clamping surface is 19 mm. and the diameter is 9.5 mm. Spindle diameter, .250 inch.

For Measuring By 100ths MM.

| Range, MM | No. | Equipment |
|---|---|---|
| 0 to 13MM | 010M | Plain |
| 0 to 25MM | 011M | Plain |
| 0 to 25MM | 021M | With Locknut |

# Mike Hole Gages




600 C12

## Accurately Measures Bore or Hole Sizes

**Measures Directly by .0001 Inch**
**Automatically Aligns in Hole**
**Measures Most Blind Holes**
**Easy-to-Read Large Diameter Head**
**Chrome Clad Finish**
**Easily Adjusted**
**Friction Stop**
**Points Spaced for Maximum Accuracy**
**Hardened and Normalized Contact Points**
**Hardened Actuator Rod does not Revolve**

These new "Mike" Hole Gages provide a new and practical method for accurately measuri bore or hole sizes. Measurements are read directly to .0001 inch.

The anvils are arranged for maximum accuracy. The smaller gages have two opposing anvi one fixed and the other movable. Gages in the range of .402" to .800" have three adjustable anv spaced equally 120° apart. Gages over .800" capacity have three anvils spaced at 135°, 135° and 9 around the head. This irregular arrangement assists in detecting the geometric error in out-o round holes. The contact points are rectangular in cross-section with cylindrical measuring face

Gages or setting rings are available to permit the setting to be checked periodically and reset necessary. Also, four and six inch extensions are available for use in deeper holes.

Complete sets and individual gages are furnished in fitted, wood cases with hinged top and cla fasteners. Gages, rings and extensions are also available individually, if desired.

## INDIVIDUAL MIKE HOLE GAGES

| Number | Range by .0001 |
|---|---|
| 600 A 19 | .188 to .238 |
| 600 A 24 | .233 to .278 |
| 600 A 28 | .272 to .338 |
| 600 A 33 | .332 to .402 |
| 600 B 4 | .396 to .502 |
| 600 B 5 | .496 to .602 |
| 600 B 6 | .596 to .704 |
| 600 B 7 | .696 to .804 |
| 600 C 8 | .794 to 1.004 |
| 600 C 10 | .994 to 1.204 |
| 600 C 12 | 1.194 to 1.404 |
| 600 C 14 | 1.394 to 1.604 |
| 600 D 16 | 1.595 to 1.805 |
| 600 D 18 | 1.795 to 2.005 |
| 600 D 20 | 1.995 to 2.405 |
| 600 D 24 | 2.395 to 2.805 |
| 600 D 28 | 2.795 to 3.405 |
| 600 D 34 | 3.395 to 4.005 |

## GAGES OR SETTING RINGS

| Number | Size |
|---|---|
| 600 R 20 | .2000 |
| 600 R 25 | .2500 |
| 600 R 30 | .3000 |
| 600 R 35 | .3500 |
| 600 R 50 | .5000 |
| 600 R 70 | .7000 |
| 600 R 100 | 1.0000 |
| 600 R 140 | 1.4000 |
| 600 R 180 | 1.8000 |
| 600 R 240 | 2.4000 |
| 600 R 340 | 3.4000 |

# Mike Hole Gages

## EXTENSIONS

| Number | Length | Range |
|---|---|---|
| 600 E 1 | 4 Inch | .187 to .400 |
| 600 E 2 | 6 Inch | .400 to .800 |
| 600 E 3 | 6 Inch | .800 to 1.600 |
| 600 E 4 | 6 Inch | 1.600 to 4.000 |

600E2
EXTENSION

## MIKE HOLE GAGE SETS
(In Fitted Cases)

| No. | Range | Contents |
|---|---|---|
| 600 A | .187 to .400 by .0001 | 4—Mike Hole Gages<br>4—Setting Rings: .200, .250, .300, .350<br>1—4" Extension<br>1—Adjusting Key |
| 600 B | .400 to .800 by .0001 | 4—Mike Hole Gages<br>2—Settings Rings: .500, .700<br>1—6" Extension<br>1—Adjusting Key |
| 600 C | .800 to 1.600 by .0001 | 4—Mike Hole Gages<br>2—Setting Rings: 1.000, 1.400<br>1—6" Extension<br>1—Adjusting Key |
| 600 D | 1.600 to 4.000 by .0001 | 6—Mike Hole Gages<br>3—Setting Rings: 1.800, 2.400, 3.400<br>1—6" Extension<br>1—Adjusting Key |

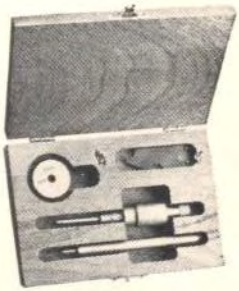

600R50
SETTING RING

600 B
MIKE
HOLE GAGE SET

## MIKE HOLE GAGE CASES ONLY

Handsome, mahogany cases designed to store and protect valuable Lufkin Mike Hole Gages. Each case will hold one each of a series of Mike Hole Gages, along with the proper size extension, ring gage and adjusting wrench.

| Case No. | For Hole Gages | For Setting Rings | For Extensions |
|---|---|---|---|
| 600AX | 600A19<br>600A24<br>600A28<br>600A33 | 600R20<br>600R25<br>600R30<br>600R35 | 600E1 |
| 600BX | 600B4<br>600B5<br>600B6<br>600B7 | 600R50<br>600R70 | 600E2 |
| 600CX | 600C8<br>600C10<br>600C12<br>600C14 | 600R100<br>600R140 | 600E3 |
| 600DX | 600D16<br>600D18<br>600D20<br>600D24 | 600R180<br>600R240 | 600E4 |
| 600DXX | 600D28<br>600D34 | | 600E4 |



600AX
MIKE HOLE GAGE
CASE
(DOES NOT INCLUDE
GAGES)



FOR PRICES SEE PRICE LIST

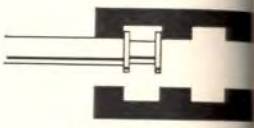
# Groove Micrometers

Mini-Mike No. 682

Multi-Mike No. 683
MEASURES GROOVES AND WIDTHS BY .001"

No. 682 MINI-MIKE For quickly measuring to .001" both internal and external grooves and widths, such as O-ring widths and retaining ring grooves. Eliminates time-consuming set-ups, expensive equipment, etc. Parts can often be measured while still in machine chuck. Fits into a ¼" or larger bore to a depth of 1½". Packed in a mahogany, fitted wood case. Shipping weight 10 oz.

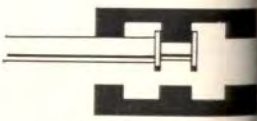
| Number | Equipment |
|---|---|
| **682** | Mini-Mike Groove Micrometer |



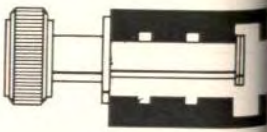
Measures Grooves
Range: .050" to 1.050"
(add .050" to reading)

No. 683 MULTI-MIKE For measuring internal and external widths and grooves to .001", in holes ½" diameter and larger, and to a maximum depth of 3¾". Additional feature is a locating disc and lock nut for locating the edges of lands and grooves in relation to the end surface. Tool has Chrome Clad, non-glare satin finish. Measuring discs are ground and lapped. Packet in a mahogany, fitted wood case. Shipping weight 1 lb. 4 oz.

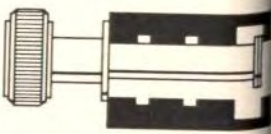
| Number | Equipment |
|---|---|
| **683** | Multi-Mike Groove Micrometer |



Measures Lands
Range: 0" to 1.000"



Locate first edge of groove
Multi-Mike only



Locate far edge of groove
Multi-Mike only

**SPECIFICATIONS**

| | 682 Mini-Mike | 683 Multi-Mike |
|---|---|---|
| Approx. Overall Length | $5\frac{13}{16}$" | 9¼" |
| Measures to | .001" | .001" |
| Maximum Reach | 1½" | 3¾" |
| Minimum Hole Size | ¼" Bore | ½" Bore |
| Measuring Disc Thickness | .025" | .025" |
| Locator Disc Diameter | | .625" |

*FOR PRICES SEE PRICE LIST*

# Precision End Measuring Rods


Head

Rod

Lufkin End Measuring Rods serve as an accurate and dependable means for obtaining spacings and table setting locations on jig boring mills and other precision machine work. They are made from select high quality steel, lapped to very close tolerance. Contact surfaces are hardened. Greater accuracy is assured because Lufkin precision end measuring rods are manufactured under controlled conditions, temperature and other factors remaining constant.

Micrometer heads have Chrome Clad satin finish for easier reading. Each thousandth is numbered for rapid and accurate reading. Two heads are furnished with each standard set, one with red identifying ring, one with black identifying ring. Micrometer heads have 1-inch movement of the screw.

Has hardened and ground threads.

The raised supporting sections of the rods are $\frac{5}{8}$-inch in diameter to fit properly in the groove of the machine bed. They are accurately ground parallel to the axis of the measuring faces. The contact faces of the rods are precision ground and lapped parallel to each other. Rods have chrome clad satin finish.

Precision end measuring heads and rods can be furnished individually or in sets.

Furnished with fitted wood case.

All Sets Contain Two Heads with Lock Nut; One with Red Identifying Ring; One with Black Identifying Ring

Graduations to 10,000ths Inch; Head Range 4 to 5 Inches

| Set No. | Number of Rods | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 1-In. | 2-In. | 3-In. | 4-In. | 5-In. | 6-In. | 12-In. | 15-In. |
| 981A | 2 | 2 | 2 | 2 | 2 | .. | .. | 1 |
| 981B | 2 | 2 | 2 | .. | .. | 2 | 2 | .. |
| 981C | 2 | 2 | 2 | .. | .. | 2 | 3 | .. |

Graduations to 100ths Millimeter; Head Range 100 to 125 Mm.

| Set No. | Number of Rods | | | | | |
|---|---|---|---|---|---|---|
| | 20-Mm. | 40-Mm. | 60-Mm. | 100-Mm. | 200-Mm. | 300-Mm. |
| 981AM | 2 | 2 | 2 | 2 | 2 | 2 |
| 981BM | 2 | 2 | 2 | 2 | 2 | 3 |
| ..... | .. | .. | .. | .. | .. | .. |

## Extra Heads and Rods

| Extra Heads Only | | Extra Rods Only | | |
|---|---|---|---|---|
| No. | Measurement | No. | Measurement | Length |
| 981 | Inches | 981 | Inches | 1, 2, 3, 4, 5, 6, 7, 8, 10, 12 or 15-Inch |
| 981M | Metric | 981M | Metric | 20, 25, 40, 50, 60, 75, 100, 125, 150, 175, 200 or 300 Millimeter |

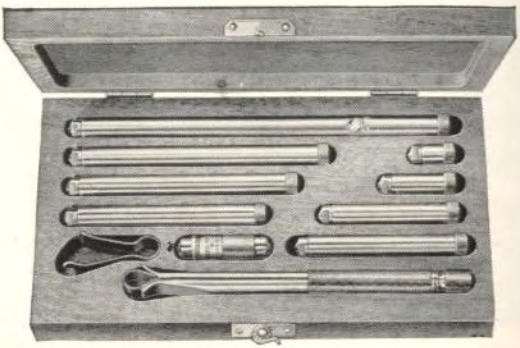


**NOTE:** Sets other than listed can be supplied; information and prices on application.

Packing: One in a Box.

***FOR PRICES SEE PRICE LIST***

# Series 680 Chrome Clad Tubular Inside Micrometers



**Using Inside Micrometer No. 681D, Built Up with Extension Rod at Both Ends**

Note that the micrometer head is in centered position where it is easiest to get proper feel and to adjust micrometer to size, and that reading point is directly in the line of vision, where it is easy to see and read.

# Series 680 Chrome Clad Tubular Inside Micrometers

Lufkin's finest line of Inside Micrometers. Rigid tubular construction, yet light in weight. Made of precision ground tubing rather than a solid rod. Measuring rods can be added to either or both ends of micrometer head. This feature permits the micrometer head to be in a centered position at all times. The head being centered and in line of vision, allows the mechanic to get a more sensitive feel and a more precise measurement.

**Micrometer head has Chrome Clad non-glare satin finish.**

**Rapid reading graduations on thimble (each thousandth numbered).**

**Spindle threads hardened and ground.**

**Anvil ends precision ground and hardened.**

**Adjustable extension rods are readily attached to head by removing hardened end cap (or anvil) of head with the friction wrench which is supplied. Each rod is marked with its length and adjusted for accurate measure and can be adjusted for wear. Simply slip the friction wrench over graduated sleeve and rotate it in either direction in the thimble until the zero line coincides with reading on hub. As this would affect the measurement when extension rods are used, each rod is individually adjustable, by means of a hardened and ground plug at one end, which can be turned either into or out of the rod. A tension screw nut at end of screw is provided for adjusting tension on threads.**

| Measures by 1,000ths Inch | | | | | Measures by 100ths Mm. | | | |
|---|---|---|---|---|---|---|---|---|
| No. | No. with Chrome Clad Head and Rods | Range Inches | No. of Measuring Rods | Screw Movement Inches | No. | Range Mm. | No. of Measuring Rods | Screw Movement Mm. |
| *680A | C680A | 1½–8 | 5 | ½ | | | | |
| *680B | C680B | 1½–12 | 8 | ½ | *680B-M | 40–300 | 8 | 13 |
| †681C | ..... | 4–24 | 7 | 1 | | | | |
| †681D | ..... | 4–32 | 8 | 1 | †681K-M | 100–1000 | 10 | 25 |
| †681K | ..... | 4–40 | 10 | 1 | | | | |
| *†6801D | ..... | 1½–32 | 10 | ½ & 1 (2 Heads) | | | | |

*Furnished with handle to help maintain perfect balance essential to accuracy; may be attached anywhere along the head or the extension rods.

†With lock nut. ‡With lock nut on 1-inch head.

**Note:** Micrometers with range beyond 40 inches can be supplied. Prices on request.

Packing: One in a Nicely Finished Wood Box.

## No. 9A Height Gage Attachments

(Patented)

Used in conjunction with No. 680 series micrometers. Useful on jigs, fixtures and in machine construction work; suitable also for use in lining up shafting, etc.

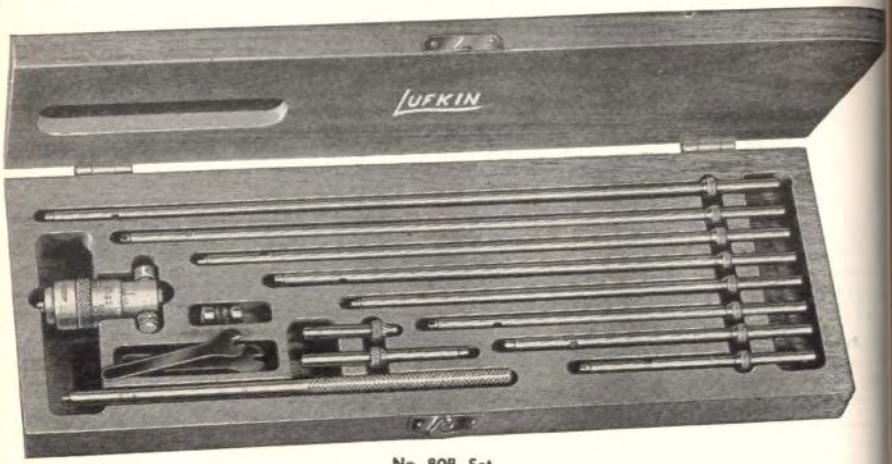
Well proportioned, accurately grooved and hardened. Knurled chuck firmly holds inside micrometer rod in place. Hole extends entirely through, permitting micrometer rod to rest directly on any surface from which measurement is being taken, as essential feature when working on cylindrical objects. Mottled finish.

Packing: One in a Box.

**No. 9A, Showing Application with Micrometer**

# Series 80 Chrome Clad Inside Micrometers—Solid Rods

(Patented)




No. 80B, Set

No. 81C, Head

Accurate and suitable for many purposes, these Inside Micrometers, though not possessing the features and refinements of our No. 680 Series, are popular with mechanics.

Micrometer head has Chrome Clad non-glare satin finish. Rapid reading graduations on thimble (each thousandth numbered). Spindle threads and Contact points hardened and ground.

Extension rods and collars are used to obtain the range. Each rod is marked with the range of the micrometer when used with that rod. For example: using the 3 to 4-inch rod, the movement allows measurements from 3 to 3½ inches, adding ½-inch collar increases the range with the same rod from 3½ to 4 inches. Use of collars applies to all extension rods. The zero mark on head, collar and rod should be in alignment in assembling the tool for use. When assembled, the shoulder o the rod fits firmly against the head or collar Provision is made for adjusting tension an taking up wear on the screw. Contact point of the rods are adjustable for maintainin their individual lengths by means of wrench es furnished with each set.

Handle can be furnished for 80A, 80B and 81D sets. Handle can be inserted in the head b removing the knurled screw opposite th knurled and grooved extension rod loc screw. Handle supplied only when ordered

Fitted cases are available for all sets; supplie only when ordered.

Measures by 1,000ths Inch

| No. | Range Inches | No. of Rods | Rod Diam. Inches | Movement of Screw Inches | Description |
|---|---|---|---|---|---|
| 80A | 2 to 8 | 6 | 5/32 | ½ | Complete with Solid Rods and ½-Inch Collar. |
| 80B | 2 to 12 | 10 | 5/32 | ½ | |
| 81C | 8 to 32 | 4 | 5/16 | 1 | Complete with Tubular Rods and One 1-Inch and Two 2-Inch Collars. |
| 81D | 2 to 32 | 10 | 5/32 & 5/16 | ½ & 1 | Consists of Micrometers sets 80A and 81C. |

Packing: One in a Box.

FOR PRICES SEE PRICE LIST

## Memorandum

Memorandum

# Chrome Clad Micrometer Depth Gages

(Patented)

**1-Inch Movement • 2-Inch Base**


**No. 212**

This gage is especially suitable for measuring with micrometer accuracy depths of very small holes, slots, etc. and for use in small places.

To permit use in small openings and in confined locations, the diameter of the measuring rods of this gage is $\frac{3}{32}$ inch, length of oblong base is 2 inches, and its width $\frac{15}{32}$ inch.

Three rods are furnished with this gage, giving measurements from 0 to 3 inches by thousandths of an inch. The rods are inserted through a hole in the screw and are securely fastened by the knurled cap. To compensate for wear, each rod is equipped with an adjusting nut to maintain its length. The end of each rod is hardened and lapped. Rods are centerless ground. Base is hardened and ground, and its form assures firm hold.

**Head has Chrome Clad non-glare satin finish.**

**Rapid reading graduation on thimble (each thousandth numbered).**

**Lock nut engages the rod at any point, holding the reading.**

**No. 212, Micrometer Depth Gage.**

**No. 212RS, Micrometer Depth Gage, with Ratchet Stop.**

Packing: One Gage with Rods in Hinged Wood Box with Clasp.



*FOR PRICES SEE PRICE LIST*

# Chrome Clad Micrometer Depth Gages

(Patented)

## 1-Inch Movement


No. 513

For measuring with micrometer accuracy the depth of holes, slots, etc.

Oblong bases have knurled top surface, affording the firm hold essential to accurate measurement.

Rods are inserted through hole in the screw and securely fastened by knurled cap. Each rod has a means of individual length adjustment and end of each is hardened and lapped. Rods are centerless ground. Diameter of rods, approximately $\frac{5}{32}$ inch.

Base is $\frac{15}{32}$ inch wide, and is hardened and ground.

**Head has Chrome Clad non-glare satin finish.**

**Rapid reading graduations on thimble (each thousandth numbered).**

**Threads are hardened and ground.**

**Lock nut engages the rod at any point, holding the reading.**

| Range, Inches | 3-Inch Base Number | 3-Inch Base Rods | 4-Inch Base Number | 4-Inch Base Rods | 5-Inch Base Number | 5-Inch Base Rods |
|---|---|---|---|---|---|---|
| Measures by 1,000ths Inch | | | | | | |
| 0 to 3 | *513 0-3 | 3 | *514 0-3 | 3 | *515 0-3 | 3 |
| | †513RS 0-3 | 3 | †514RS 0-3 | 3 | †515RS 0-3 | 3 |
| 0 to 6 | *513 0-6 | 6 | *514 0-6 | 6 | *515 0-6 | 6 |
| | †513RS 0-6 | 6 | †514RS 0-6 | 6 | †515RS 0-6 | 6 |
| 0 to 9 | †513RS 0-9 | 9 | †514RS 0-9 | 9 | †515RS 0-9 | 9 |
| Measures by 100ths Mm. | | | | | | |
| 0 to 75 Mm. | *513M | 3 | ..... | ..... | *515M | 3 |

*With lock nut. †With lock nut and ratchet cap Above sets can also be furnished with rods ground to a $\frac{3}{32}$ in radius at no extra charge.

## Extra Rods

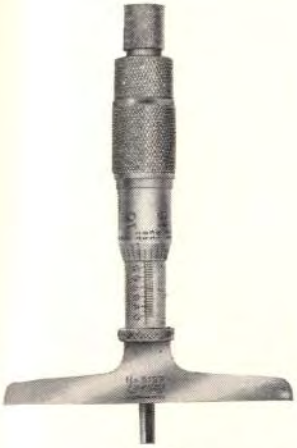
Extra rods are available in 0 to 1, 1 to 2, 2 to 3, 3 to 4, 4 to 5, 5 to 6, 6 to 7, 7 to 8 and 8 to 9-inch ranges. When ordering rods only, the finest degree of accuracy is assured by returning the gage to the factory for fitting.

Packing: One Gage with Rods in Hinged Wood Box with Clasp.

FOR PRICES SEE PRICE LIST

# Chrome Clad Micrometer Depth Gages

## 1-Inch Movement with Friction Thimble



No. 513F

The friction thimble is designed to apply consistent and uniform contact pressure enabling uniform readings to be taken.

For measuring with micrometer accuracy the depth of holes, slots, etc.

Oblong bases have knurled top surface, affording the firm hold essential for accurate measurement.

Rods are inserted through hole in the screw and securely fastened by knurled cap. Each rod has a means of individual length adjustment and end of each is hardened and lapped. Rods are centerless ground. Diameter of rods, approximately $\frac{5}{32}$ inch.

Base is $\frac{15}{32}$ inch wide, and is hardened and ground. Equipped with lock nut. Furnished with fitted wood case.

**Head has Chrome Clad non-glare satin finish.**

**Rapid reading graduations on thimble (each thousandth numbered).**

**Threads are hardened and ground.**

**Lock nut engages the rod at any point, holding the reading.**

Measures by 1,000ths Inch

| 3-Inch Base | | | 4-Inch Base | | | 5-Inch Base | | |
|---|---|---|---|---|---|---|---|---|
| No. | Range | No. of Rods | No. | Range | No. of Rods | No. | Range | No. of Rods |
| **513F** | 0 to 3 Inch | 3 | **514F** | 0–3 Inch | 3 | **515F** | 0–3 Inch | 3 |
| **513F** 0 to 6 | 0 to 6 Inch | 6 | **514F** | 0–6 Inch | 6 | **515F** | 0–6 Inch | 6 |

## Extra Rods

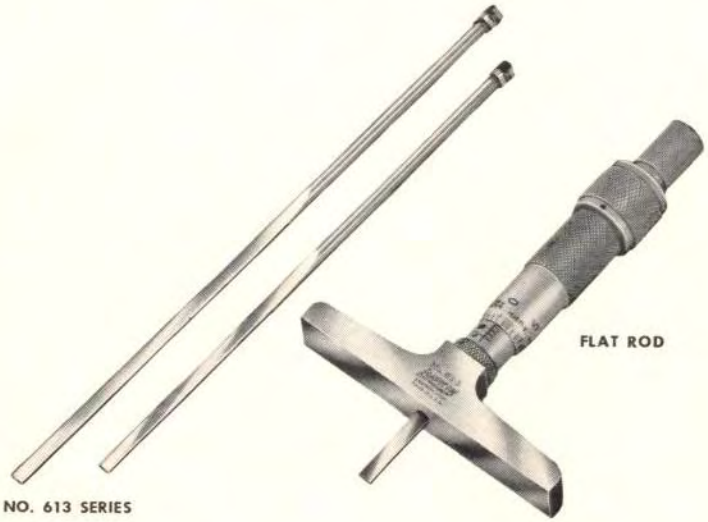
Extra rods are available in 0 to 1, 1 to 2, 2 to 3, 3 to 4, 4 to 5, 5 to 6, 6 to 7, 7 to 8 and 8 to 9-inch ranges.

When ordering rods only, the finest degree of accuracy is assured by returning the gage to the factory for fitting.

Packing: One Gage with Rods in Hinged Wood Box.

# Chrome Clad Micrometer Depth Gage

**1-Inch Movement**




NO. 613 SERIES

### Flat Rod Gets Closer to Shoulders

Measurement can be made at side of hole—avoiding extra depth made by drill point. Better for narrow recesses too. Rod can be turned 360° to any position to suit job . . . but once set, rod won't turn while measuring . . . won't walk away from setting.

### Broader, Heavier Base

Extra metal and weight in the base make this a more perfectly balanced depth gage. Hardened and ground.

### Chrome Clad Finish

Head has durable, non-glare Chrome Clad satin finish.

### Rapid Reading

Graduations on thimble have each thou sandth numbered.

### Hardened and Ground Threads

Rods are inserted through hole in the scre and securely fastened by knurled cap. Eac rod has a means of individual length adjus ment and end of each is hardened and lappe

Each gage is packed complete with rods, in fitted wood case with hinged lid and clasp.

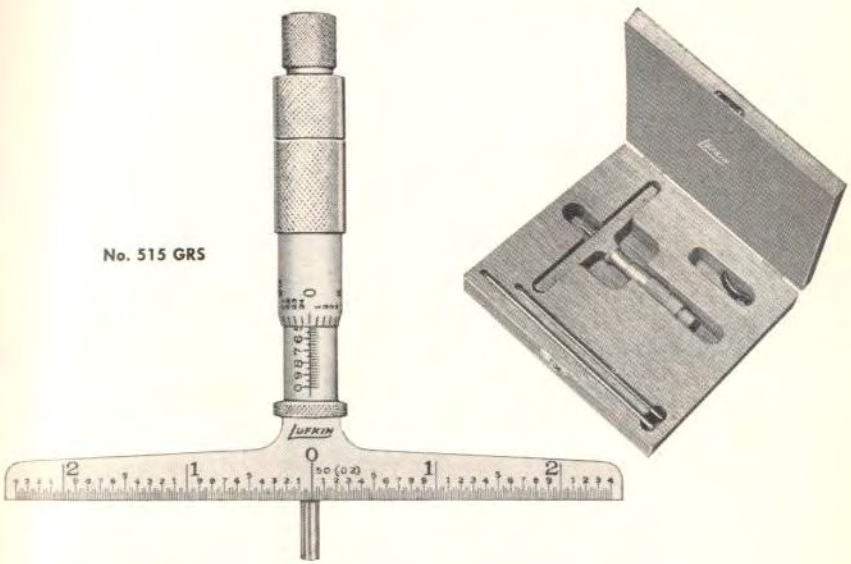
| BASE SIZE | Plain | | With Ratchet Cap | |
|---|---|---|---|---|
| | Number | Range | Number | Range |
| 3″ | 613 | 0–½″<br>0–1″ | 613RS | 0–3″<br>0–6″ |
| 4″ | 614 | 0–3″<br>0–6″ | 614RS | 0–3″<br>0–6″ |
| 5″ | 615 | 0–3″<br>0–6″ | 615RS | 0–3″<br>0–6″ |

FOR PRICES SEE PRICE LIST

# Chrome Clad Micrometer Depth Gages

## Graduated Base 1-Inch Movement

No. 515 GRS



Measures the depth of holes, slots, projections, etc. with micrometer accuracy. Base is graduated on one side to permit taking measurements in various locations at a specified distance from the edge of the work. Graduations are in 50ths (.020) and extend 2.4 inches both sides of zero located in the exact center of base.

The base, 5 inches long by $^{15}/_{32}$ inch wide, is oblong with knurled top surface for firm holding. Base is hardened and ground.

The micrometer head has a Chrome Clad non-glare satin finish. Graduations on the thimble are rapid reading (each thousandth is numbered.) Hardened and ground threads.

The rods, approximately $^{5}/_{32}$ inch in diameter, are centerless ground and have hardened and lapped measuring ends. Rods are inserted through hole in screw and securely fastened by knurled cap. Each rod has means of individual length adjustment.

Furnished with fitted wood case.

| Number | Range | No. of Rods | Description |
|---|---|---|---|
| 515GRS | 0 to 3 inch | 3 | With Lock Nut and Ratchet |
| 515GRS | 0 to 6 inch | 6 | With Lock Nut and Ratchet |

**Note:** Sets can also be furnished with rods ground to a 3/32 inch radius at no extra charge.

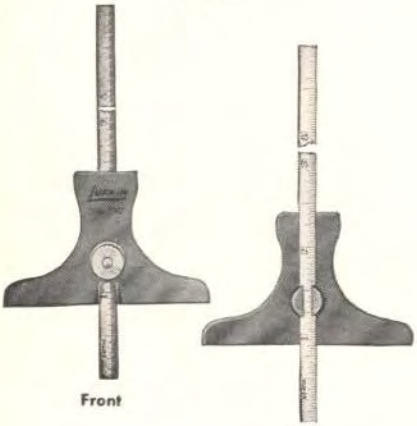
## Extra Rods

Extra rods are available in any of the following ranges: 0–1″, 1″–2″, 2″–3″, 3″–4″, 4″–5″, 5″–6″, 6″–7″, 7″–8″, 8″–9″. When ordering rods only, return gage to factory for accurate fitting.

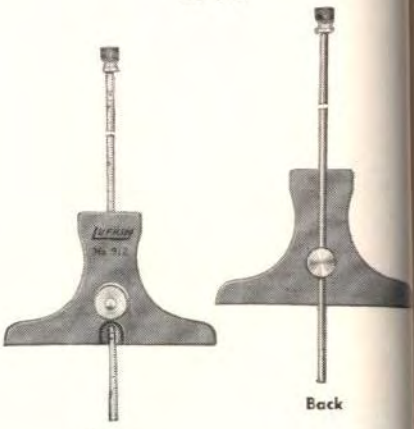
# Depth Gages

## Case Hardened Steel Heads • Tempered Steel Blades

No. 510




No. 512




Blades are tempered steel, machine divided, fitted in slot of head. They can be securely clamped at any point by means of knurled nut and tension spring. Removable for use separately as scales.

Our gages with round rod have that rod graduated. This is a valuable feature, making unnecessary the use of an additional rule.

Steel heads are case hardened, well finished and fit the hand nicely. Give good range, being 2½ inches wide and ⅛ inch thick. They are deeply notched on one side, making reading of measurement easy.

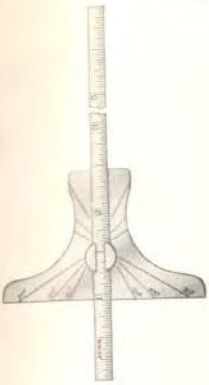
| No. | Size | Type Depth Gage | Markings |
|---|---|---|---|
| **510** | 6 Inch | With Narrow, 3/16-Inch, Spring Tempered Rule | Rule Marked One Side 32nds, Other Side 64ths Inch (Rule No. 2310) |
| **512** | 6 Inch | With Round Graduated Rod (Rod While Round is Graduated, a Distinctive Feature) | Rod Is Tempered, 1/10-Inch in Diameter, Permitting Access in Small Holes. Rod Is Graduated 4 Inches to 32nds. Measurement Is Arrived at without the Additional Use of a Rule, Making this the Ideal Tool of its Kind |
| **510M** | 15-Centimeter | With 5 Mm. Wide Spring Tempered Rule | Rule is Marked One Side Millimeters, Other Side ½ Mm. (Rule No. 2300M) |

Packing: One in a Box.

# Depth Gages

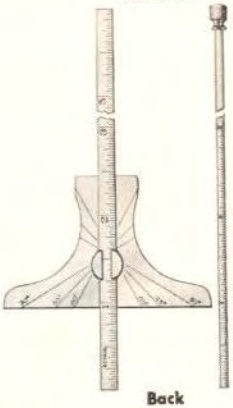
## Combination Depth Gage and Hook Rule
## Case Hardened Steel Heads • Tempered Steel Blades

No. 511



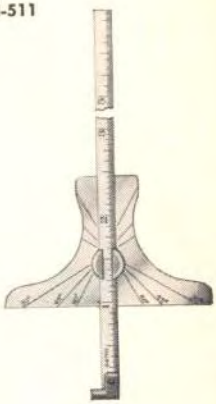
Back

No. 511A



Back

No. H-511



Back

These depth gages have degree lines on head, to which the blade, or rule, can be set, serving as a protractor for some kinds of work.

Blades are tempered steel, machine divided, fitted in slot of head. Blades can be securely clamped at any length by means of knurled nut and tension spring. All blades are removable for use separately as scales.

Steel heads, case hardened, well finished and fit the hand nicely. Heads give good range, being 2½ inches wide and ⅛ inch thick. They are deeply notched on one side, making reading of measurement easy. No. 511A and H511A are furnished with a narrow blade and a round graduated rod. The rod is 1/10 inch in diameter permitting easy access into small holes.

No. H-511 blade has hook, making a convenient tool for certain kinds of calipering work. When used as a depth gage, remove hook by simply giving eccentric stud a half turn.

| No. | Size | Type Depth Gage | Markings |
|---|---|---|---|
| 511 | 6-Inch | With Narrow, 3/16-Inch, Spring Tempered Rule | Rule Marked One Side 32nds, Other Side 64ths Inch (Rule No. 2310) One Side of Head Is Marked, Both Right and Left, with 30, 45 and 60 Degree Lines |
| H-511 | 6-Inch with Hook Rule | With 3/16-Inch Wide Spring Tempered Rule with Hook | With Degree Lines on Head, as Described Above. Rule Marked One Side 32nds, Other Side 64ths Inch. (Rule No. H-2310) |
| 511A | 6-Inch | With Narrow, 3/16-Inch Spring Tempered Rule and Round Graduated Rod | Rule Marked One Side 32nds, Other Side 64ths Inch (Rule No. 2310) One Side of Head Is Marked, Both Right and Left, with 30, 45 and 60 Degree Lines. Rod is Graduated 4 Inches to 32nds Inch |
| H-511A | 6-Inch with Hook Rule | With 3/16-Inch Wide Spring Tempered Rule with Hook and Round Graduated Rod | With Degree Lines on Head, as Described Above. Rule Marked One Side 32nds, Other Side 64ths Inch. (Rule No. H-2310) Rod is Graduated 4 Inches to 32nds Inch |

Packed: One in a Box.

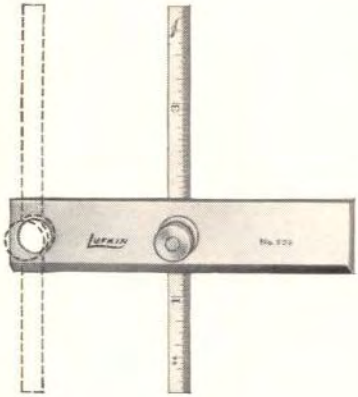


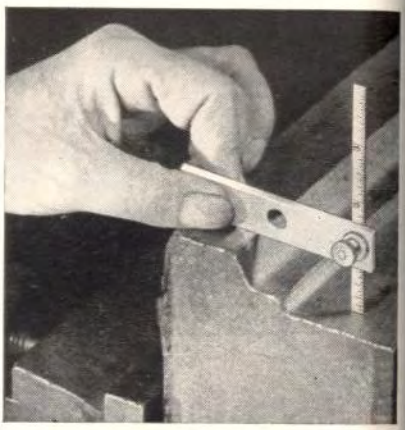
FOR PRICES SEE PRICE LIST

# Depth Gages

## With Graduated Steel Rule

## Designed for Spanning Wider Openings





These depth gages have bases 3½, 6 and 10 inches wide, a range to cover practically all requirements. All bases have gaging positions at center and at end, making them more suitable to taking difficult measurements. Measuring edge of base is beveled, giving line contact with work surface.

Blade (rule) fits in head slots and can be clamped securely at any length by knurled nut and tension spring. Made entirely of tempered steel. The flat blades are $^{3}/_{16}$-inch wide and are machine divided. One side graduated to 32nds, the other side to 64ths; (rule No. 2310). The rule is removed readily for use separately as a scale.

| No. | With Base Inches | With Rule Inches |
|---|---|---|
| **509B** | 3½ | 6 |
| **509D** | 6 | 6 |
| **509E** | 10 | 6 |

Packing: One in a Box.

***FOR PRICES SEE PRICE LIST***

# Vernier Height Gage

## Chrome Clad


- Hardened and stabilized "H" beam bar.
- Sturdiest construction for elimination of vibration
- Read full range—reading is at zero when scriber is flush with base
- Open flush vernier eliminates parallax.
- Adjustable slide tension
- Balanced design
- Heavy lapped base
- Chrome clad easy to read finish

A new concept in height gage construction is achieved by using an "H" beam bar. It is the ultimate in rigidity and warping is eliminated. The Bar is hardened and stabilized for assured and lasting accuracy.

The base is heavy adding sustaining rigidity to the tool. It is uniquely designed with a convenient carrying handle that is also used in working in the tool to the work.

The heavy base assists in eliminating vibrations and chatter.

The vernier plate is long and is placed flush with graduations on the bar to eliminate parallax and reading errors.

Chrome Clad finish is easier to read. Graduations are machine cut and black filled.

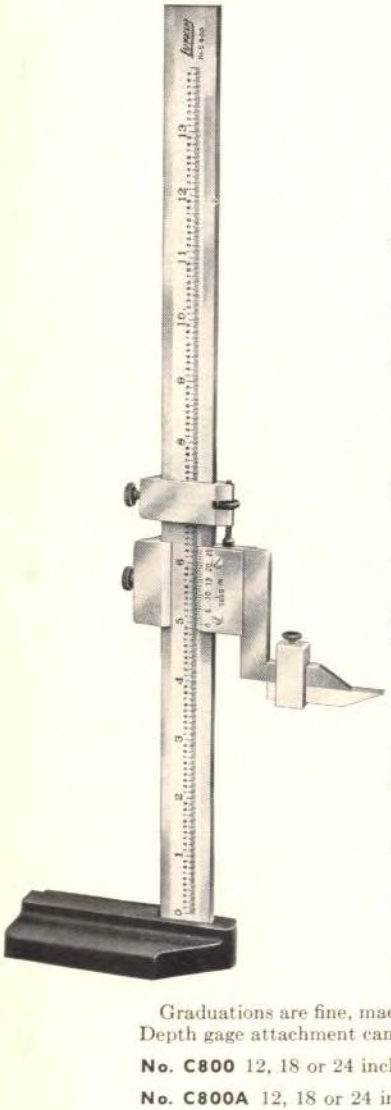
**No. C801** Vernier Height Gage 18, 24, 36 & 48 in.

**No. C801A** Vernier Height Gage with depth gage attachment 18, 24, 36 & 48 in. packed in wood case.

SPECIFY SIZE WHEN ORDERING



*FOR PRICES SEE PRICE LIST*



# Series No. C800 Chrome Clad Vernier Height Gage

**• Chrome Clad Finish**

Easier to read. Jet black markings stand out sha and clear against non-glare chrome background.

**• Hardened, Stabilized Bar**

Bar is hardened and stabilized for rigidity and lasti accuracy.

**• 3-Point Gib Adjustment**

Slide has a 3-point adjustment for uniform tension o slide adjustment and holds the jaw parallel to the bas in all settings.

**• Wide Open, Double Length Vernier**

Reading is unobstructed with wide open vernie Graduations are twice as far apart as conventiona verniers . . . eliminates reading errors.

**• Read Full Range Direct**

New design permits reading direct over full rang from the base. Reading is at zero when offset scriber flush with base. No calculations necessary.

**• Bar at Front**

Bar is at front of base . . . permits getting closer t work. Reduces chatter when scribing.

Accurately measures and marks off vertical distance from a plane surface. Reads to thousandths of inche by means of a Vernier on sliding jaw.

Graduations are fine, machine cut and black filled. Base is hardened and lapped Depth gage attachment can be attached to scriber. Furnished in case.

**No. C800** 12, 18 or 24 inch Vernier Height Gage.

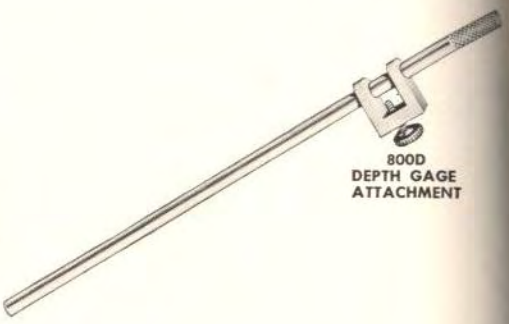
**No. C800A** 12, 18 or 24 inch Vernier Height Gage with Depth Gage attachment

**No. C800ME** 30, 46 or 60 cm.

## Memorandum

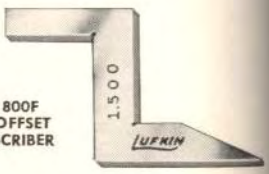
# Height Gage Attachments

C800X
MAGNIFIER
ATTACHMENT



800D
DEPTH GAGE
ATTACHMENT

800H
INDICATOR ADAPTER

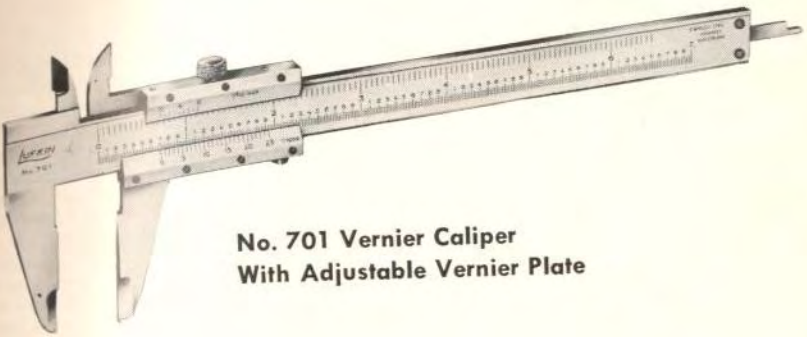



800F
OFFSET
SCRIBER

| Number | Description |
|---|---|
| 800D | Depth Gage Attach. for 12″ |
| 800E | Depth Gage Attach. for 18″–24″ |
| 800F | Offset Scriber for 12″ |
| 800G | Offset Scriber for 18″–24″ |
| 800H | Indicator Adapter |
| 800J | Straight Scriber for 12″ |
| 800K | Straight Scriber for 18″–24″ |
| 800K-6″ | Straight Scriber for 18″–24″ |
| 800K-10″ | Straight Scriber for 18″–24″ |
| CT 800J | Carbide Scriber for 12″ |
| CT 800K | Carbide Scriber for 18″–24″ |
| C 800X | Magnifier Attach. for 18″–24′ |

*FOR PRICES SEE PRICE LIST*

# Chrome Clad Vernier Caliper



**No. 701 Vernier Caliper**
**With Adjustable Vernier Plate**

**Plate can be reset to compensate for wear and resurfacing of measuring faces. Chrome Clad Finish.**

An extremely versatile tool for shop work. Makes inside, outside and root measurements of gears and threads. May also be used as a depth gage.

Made completely of Stainless Steel . . . hardened and specially seasoned to relieve hardening strains . . . prevents any alteration of size or shape.

Vernier slide is carefully fitted for smooth, snug operation. Knurled pusher knob facilitates easy setting. A conveniently located thumb screw lock, holds setting quickly and accurately.

Measuring faces are ground and lapped for maximum accuracy.

Furnished in fitted, wood box with hinged lid and double clasp fasteners.

Extra long vernier has widely-spaced, easy-to-read markings. Bottom scale has 25 divisions reading by 1/1000ths inch. Top scale has 8 divisions reading by 1/128ths (½-64ths) inch.

Metric-bottom edge 1/50 mm. top edge 1/1000 ths. inch. All reading surfaces have a dull, non-glare chrome finish.

**SPECIFICATIONS**

| | |
|---|---|
| Overall Length | 8 13/16″ |
| Measuring Capacity | 5¾″ |
| Length of Jaws | 1 5/16″ |
| Length Internal Nibs | 39/64″ |

No. **701** Vernier Caliper

No. **701 ME** Vernier Caliper

Wood Case Only.



***FOR PRICES SEE PRICE LIST***

# Combination Squares • Bevel Protractors

## Combination Sets

### General Description

These tools consist of an accurately machine divided, te pered steel rule (or blade), on which slide the square head stock), the center head and the protractor head, furnish singly or as a set.

All ground faces and the enameled parts of all heads exceptionally well finished. Square heads have square a miter faces and all, except the 4-inch and No. 135, are equipp with level glass and scriber. All protractor heads have lev All heads can be accurately, quickly and securely set at a point along the blade, and readily removed so blade can used separately as a rule and square head as a level. Arms our center heads are ground to equal length and have en uniformly machined to give accurate result on large as well small diameters. The revolving turret of our protractor hea has degrees numbered from 0 to 90 to left and to right of ce ter. Those protractor heads which have shoulder extendi from only one side of blade are known either as "single "plain," or "not reversible"; those with shoulder extendi from both sides, as "double" or "reversible." Our reversib protractor heads readily can be converted to single type.

### We Offer Combination Squares and Sets of Two Kinds

With Square and Center Heads Drop Forged and Harden With Cast Heads Not Hardened

In the design and manufacture of Lufkin Combinati Squares first consideration is given to accuracy and to insu continued accuracy. A well balanced fine appearing tool.

All Lufkin Combination Squares are equipped with patent bolt which permits reversing the blade in the head witho removing the nut. Hardened heads are so marked.

Combination Square Sets are made up by adding parts the basic square. For example: The No. 635 Combination S is made up of the No. 35C Square and Center Head plus a N 06 Protractor Head, etc.

### A Combination Set Has Perhaps More Applications in Use Than Any Other Hand Tool Made for Mechanics

These uses are so many and so varied that this tool is almo indispensable to all mechanics in metal working, machinis pattern makers, and others.

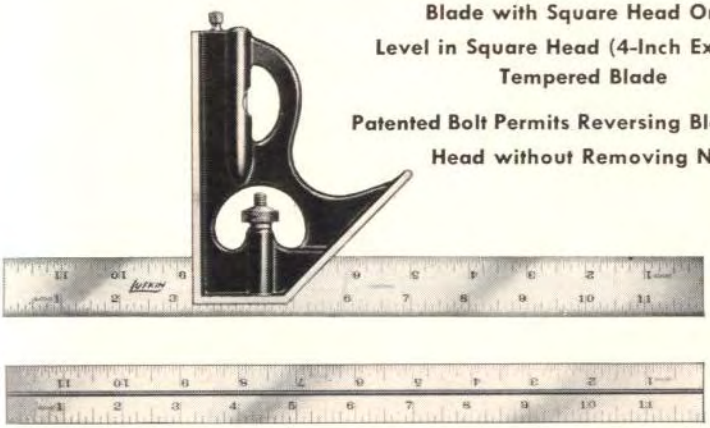
It is an ideal tool for transferring exact measurements a laying out work; is well suited also for leveling surfaces o with another, for measuring and squaring in mortices, etc. serves as a handy gage in many places where micrometer a curacy is not required. We list below but a few of its ma applications.

### Try and Miter Squares • With Adjustable Length Blade

(Take the Place of a Whole Set of Common Squares)

| | | | |
|---|---|---|---|
| Height Gage | Level | Depth Gage | Plu |
| Bevel Protractor | Steel Scale | Marking Gage | Scri |

# Combination Squares



**Blade with Square Head Only**
**Level in Square Head (4-Inch Excepted)**
**Tempered Blade**

**Patented Bolt Permits Reversing Blade in the Head without Removing Nut**

**Showing Reverse Side of Blade**

| With Drop Forged and Hardened Head No. | With Cast Head No. | Length | Graduations |
|---|---|---|---|
| **35** | **25** | 4, 6, 9*, 12, 18, 24 In. | No. 4 (8ths, 16ths, 32nds, 64ths In.) |
| **35-4R** | | 6, 12, 18, 24 In. | No. 4 Rapid Reading (8ths, 16ths, 32nds, 64ths In.); 32nds Numbered Every 4th Division; 64ths Every 8th |
| **35-16R** | | 6, 12, 18, 24 In. | No. 16 Rapid Reading (32nds, 50ths, 64ths, 100ths In.); 32nds Numbered Every 4th Division; 50ths Every 5th; 64ths Every 8th; 100ths Every 10th |
| **35ME** | **25ME** | 30 Cm. | Metric and English; One Side ½ Millimeters and 32nds Inch; Other Side Millimeters and 64ths Inch |

*9-inch available in **No. 25** only.

**When ordering, specify catalog No. and length.**

Combination Square Blade Widths

| Length Inches | Approximate Width, Inches | Length Inches | Approximate Width, Inches |
|---|---|---|---|
| 4 | 5/8 | 12 | 1 |
| 6 | 3/4 | 18 | 1 |
| 9 | 1 | 24 | 1 |

**Note:** For general description of Combination Squares, see page **74.**

Packing: One in a Box.

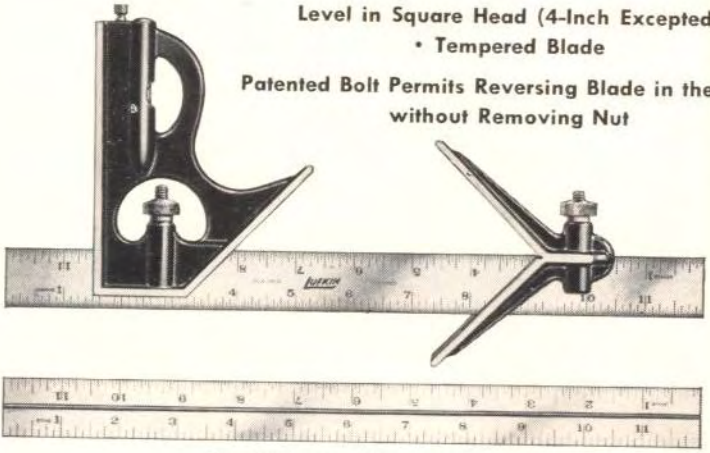
# Combination Squares

**Blade with Square and Center Heads**

**Level in Square Head (4-Inch Excepted)**

**• Tempered Blade**

**Patented Bolt Permits Reversing Blade in the Head without Removing Nut**





**Showing Reverse Side of Blade**

| With Drop Forged and Hardened Heads No. | With Cast Heads No. | Length | Graduations |
|---|---|---|---|
| **35C** | **25C** | 4, 6, 9, 12, 18, 24 In. | No. 4 (8ths, 16ths, 32nds, 64ths In.) |
| **35C-4R** | | 6, 12, 18, 24 In. | No. 4 Rapid Reading (8ths, 16ths, 32nds 64ths In.); 32nd Numbered Every 4th Division; 64ths Every 8th |
| **35C-16R** | | 12, 18, 24 In. | No. 16 Rapid Reading (32nds, 50ths, 64ths, 100ths In.); 32nd Numbered Every 4th Division; 50ths Every 5th; 64ths Every 8th; 100ths Every 10th |
| **35CME** | **25CME** | 30 Cm. | Metric and English; One Side ½ Millimeters and 32nds Inch Other Side Millimeters and 64ths Inch |

**When ordering, specify catalog No. and length.**

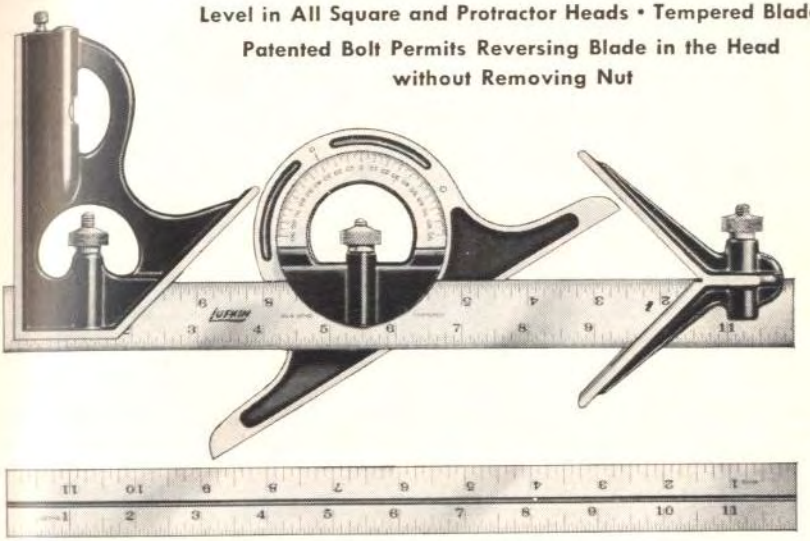
| Combination Square Blade Widths | | | |
|---|---|---|---|
| Length Inches | Approximate Width, Inches | Length Inches | Approximate Width, Inches |
| 4 | $\frac{5}{8}$ | 12 | 1 |
| 6 | $\frac{3}{4}$ | 18 | 1 |
| 9 | 1 | 24 | 1 |

**Note:** For general description of Combination Squares, see page 74.

Packing: One in a Box.

# Combination Sets

**Blade with Square, Center and Non-Reversible Protractor Heads**
**Level in All Square and Protractor Heads • Tempered Blade**
**Patented Bolt Permits Reversing Blade in the Head without Removing Nut**





**Showing Reverse Side of Blade**

| With Square and Center Heads Drop Forged and Hardened No. | With Cast Heads No. | Length | Graduations |
|---|---|---|---|
| **535** | **525** | 12, 18, 24 In. | No. 4 (8ths, 16ths, 32nds, 64ths In.) |
| **535ME** | **525ME** | 30, 60 Cm. | Metric and English; One Side ½ Millimeters and 32nds; Other Side Millimeters and 64ths Inch |

**When ordering, specify catalog No. and length.**

Combination Square Blade Widths

| Length Inches | Approximate Width, Inches | Length Inches | Approximate Width, Inches |
|---|---|---|---|
| 9 | 1 | 18 | 1 |
| 12 | 1 | 24 | 1 |

Note: For general description of Combination Squares, see page 74.

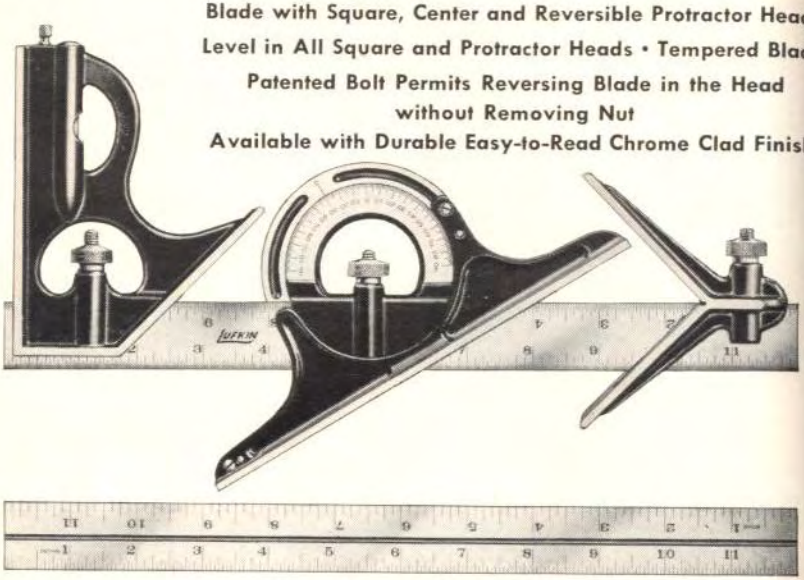
Packing: One in a Box.



*FOR PRICES SEE PRICE LIST*

# Combination Sets

**Blade with Square, Center and Reversible Protractor Heads**
**Level in All Square and Protractor Heads • Tempered Blade**
**Patented Bolt Permits Reversing Blade in the Head without Removing Nut**
**Available with Durable Easy-to-Read Chrome Clad Finish**




**Showing Reverse Side of Blade**

| With Square and Center Heads Drop Forged and Hardened No. | With Cast Heads No. | With Chrome Clad Finish No. | Length | Graduations |
|---|---|---|---|---|
| **635** | **625** | **C635** | 12, 18, 24 In. | No. 4 (8ths, 16ths, 32nds, 64ths In.) |
| **635-4R** | | **C635-4R** | 12, 18, 24 In. | No. 4 Rapid Reading (8ths, 16ths, 32nds, 64ths In.); 32n Numbered Every 4th Division; 64ths Every 8th |
| **635-16R** | | **C635-16R** | 12, 18, 24 In. | No. 16 Rapid Reading (32nds, 50ths, 64ths, 100ths In. 32nds Numbered Every 4th Division; 50ths Every 5 64ths Every 8th; 100ths Every 10th |
| **635ME** | **625ME** | ..... | 30 Cm. | Metric and English; One Side ½ Millimeters and 32n Other Side Millimeters and 64ths Inch |

**When ordering, specify catalog No. and length.**

| Combination Square Blade Widths | | | |
|---|---|---|---|
| Length Inches | Approximate Width, Inches | Length Inches | Approximate Width, Inches |
| 9 | 1 | 18 | 1 |
| 12 | 1 | 24 | 1 |

**Note:** For general description of Combination Squares, see page 74.

Packing: One in a Box.

***FOR PRICES SEE PRICE LIST***

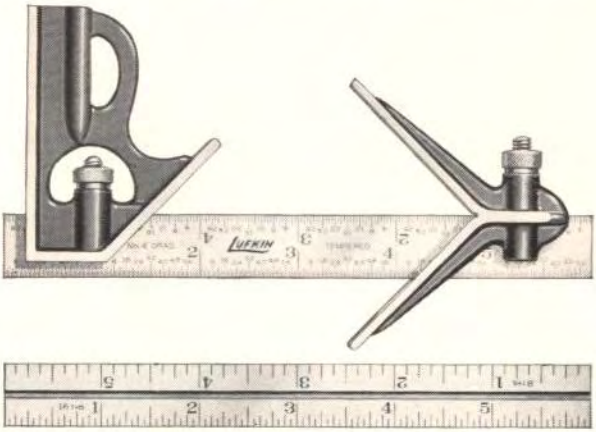
# Combination Squares

**(Junior Size)**

**Blade with Square Head Only or Blade with Square and Center Heads**

**All Heads Drop Forged and Hardened • Tempered Steel Blade**

**Patented Bolt Permits Reversing Blade in the Head without Removing Nut**




**Showing Reverse Side of Blade**

Lufkin "Junior" Combination Squares are a quality tool designed for the tool, die and pattern maker.

They are smaller in size and lighter in weight, but of the same general pattern as our Nos. 35 and 35C. The blade is narrower, ⅝ inch, and the square and center heads are smaller.

A distinctive feature of value is rapid reading graduations. No. 4 graduations divided 8ths, 16ths, 32nds and 64ths inch; 64ths numbered every 8th division and 32nds numbered every 4th division. No. 16 graduations divided 16th, 32nd, 50th, 64th and 100th inch; 32nds numbered every 4th division, 50ths every 5th division, 64ths numbered every 8th division, 100ths numbered every 10th division.

Made only with 6-inch blade.

| No. | Description |
|---|---|
| 135 | Blade with Square Head only. No. 4 Graduation. Rapid Reading. |
| C135 | Blade with Square Head only. No. 4 Graduation. Rapid Reading with durable Chrome Clad finish. |
| 135-16R | Blade with Square Head only. No. 16 Graduation. Rapid Reading |
| 135C | Blade with Square and Center Heads. No. 4 Graduation. Rapid Reading |
| 135C-16R | Blade with Square and Center Heads. No. 16 Graduation. Rapid Reading |
| | Blades Only for above (specify graduation) |

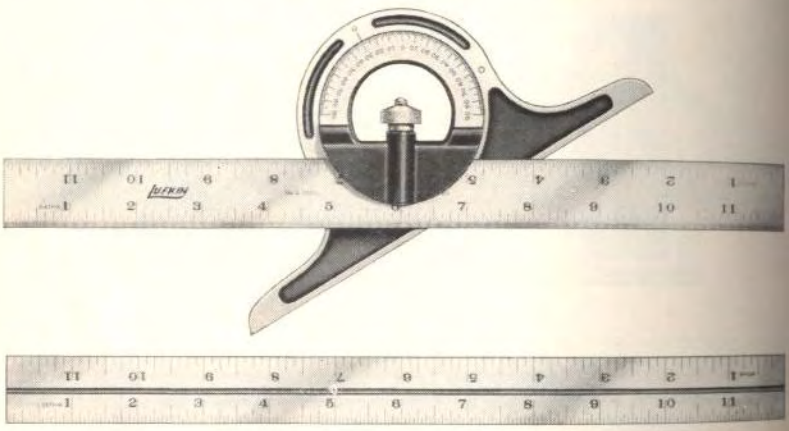
**Note:** For general description of Combination Squares, see page 74.

Packing: One in a Box.

# Bevel Protractors

**Blade with Non-Reversible Protractor Head Only • Single Head Has Shoulder on One Side of Blade • Tempered Blade • Patented Bolt Permits Reversing Blade in the Head without Removing Nut**

**Available with Durable, Easy-to-Read Chrome Clad Finish**



**Showing Reverse Side of Blade**

| No. | Length | Graduations |
|---|---|---|
| **5** | 12 In. | No. 4 (8ths, 16ths, 32nds and 64ths In.) |
| **5ME** | 30 Cm. | Metric and English; One Side ½ Millimeters and 32nds; Other Side Millimeters and 64ths Inch |

**When ordering, specify catalog No. and length.**

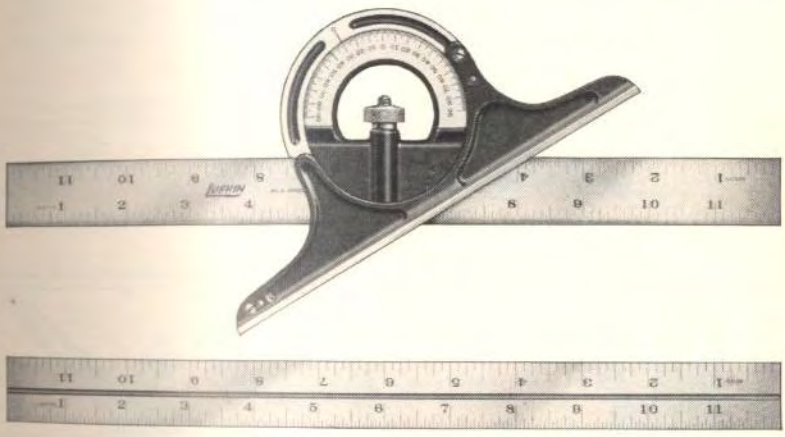
| Combination Square Blade Widths | | | |
|---|---|---|---|
| Length Inches | Approximate Width, Inches | Length Inches | Approximate Width, Inches |
| 9 | 1 | 18 | 1 |
| 12 | 1 | 24 | 1 |

**Note:** For general description of Bevel Protractors, see page 74.

Packing: One in a Box

# Bevel Protractors

**Blade with Reversible Protractor Head Only • Double Head Has Shoulder on Both Sides of Blade • Convertible to Single Type • Tempered Blade • Patented Bolt Permits Reversing Blade in the Head without Removing Nut**



Showing Reverse Side of Blade

| No. | Length | Graduations |
|---|---|---|
| 6 | 12, 18, 24 In. | No. 4 (8ths, 16ths, 32nds, 64ths In.) |

**When ordering, specify catalog No. and length.**

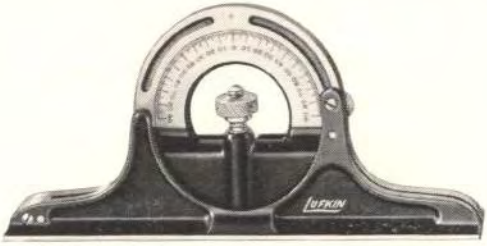
| Combination Square Blade Widths | | | |
|---|---|---|---|
| Length Inches | Approximate Width, Inches | Length Inches | Approximate Width, Inches |
| 9 | 1 | 18 | 1 |
| 12 | 1 | 24 | 1 |

Note: For general description of Bevel Protractors, see page 74.

Packing: One in a Box.

# Separate Parts of Combination Squares, Bevel Protractors and Combination Sets

## Square, Center and Protractor Heads Only




**No. 06, Reversible Protractor Head**


**Square Head**

**Bolt with Nut and Spring**

**Center Head**

Square and center heads can be furnished cast or hardened. Protractor head can be furnished in No. 06, reversible or No. 05, not reversible. For 9, 12, 18, 24 and 36 inch-blades.

Scribers only and bolt with nut and spring can also be furnished.

Square and center heads can be furnished for 4, 6, 9, 12, 18, 24 and 36-inch blade length.

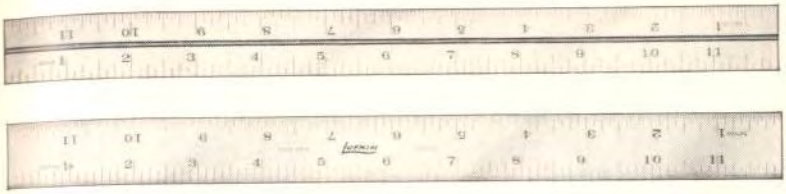
**When ordering heads, always state length blade on which head is to be used.**

No. **06,** Reversible Protractor Head
No. **05,** Non-Reversible Protractor Head
No. **C06,** ChromeClad Reversible Protractor Head
No. **C05,** ChromeClad Non-Reversible Protractor Head
Square Head
Center Head
Scriber Only
Bolt with Nut and Spring

Packing: One in a Box.

*FOR PRICES SEE PRICE LIST*

# Combination Square Blades



### Combination Square Blades Only

| No. | Length Inches | Graduations, Inches |
|---|---|---|
| 2504 | 4, 6, 9, 12, 18, 24 | No. 4 (8ths, 16ths, 32nds, 64ths) |

### Chrome Clad Combination Square Blades Only

| No. | Length Inches | Graduations, Inches |
|---|---|---|
| C2504 | 4, 6, 12, 18, 24 | No. 4 (8ths, 16ths, 32nds, 64ths) |

### Stainless Steel Combination Square Blades

| No. | Length Inches | Graduations, Inches |
|---|---|---|
| S2504 | 12, 18, 24 | No. 4 (8ths, 16ths, 32nds, 64ths) |

### Metric, Metric and English Combination Square Blades

| No | Length Centimeters | Graduations |
|---|---|---|
| 2500ME | 30, 60 | ½ Mm. and 32nds Inch; Mm. and 64ths Inch |
| 2500M | 30, 60 | Three Edges in Mm.; One Edge in ½ Mm. |

### Blades With Rapid Reading Graduations

| No. | Length Inches | Standard Graduations, Inches | *Rapid Reading Graduations, Inches |
|---|---|---|---|
| 2504R | 6, 12, 18, 24, 36 | No. 4 (8ths, 16ths, 32nds, 64ths) | 32nds, 64ths |
| 2516R | 6, 12, 18, 24, 36 | No. 16 (32nds, 50ths, 64ths, 100ths) | 32nds, 50ths, 64ths, 100ths |

### Chrome Clad Combination Square Blades With Rapid Reading Graduations

| No. | Length Inches | Standard Graduations, Inches | *Rapid Reading Graduations, Inches |
|---|---|---|---|
| C2504R | 6, 12, 18, 24, 36 | No. 4 (8ths, 16ths, 32nds, 64ths) | 32nds, 64ths |
| C2506R | 12, 18, 24 | No. 6 (50ths) | 50ths |
| C2516R | 4, 6, 12, 18, 24, 36 | No. 16 (32nds, 50ths, 64ths, 100ths) | 32nds, 64ths, 50ths, 100ths |

### Combination Square Blade Widths

| Length Inches | Approximate Width, Inches | Length Inches | Approximate Width, Inches |
|---|---|---|---|
| 4 | 5/8 | 18 | 1 |
| 6 | 3/4 | 24 | 1 |
| 9 | 1 | 36 | 1 |
| 12 | 1 | .. | .. |

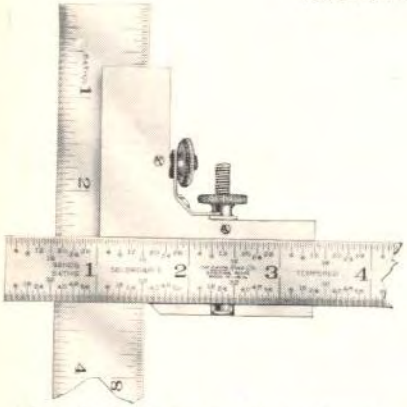
Packing: Six in a Box.

**When Ordering Always Specify Blade Length**

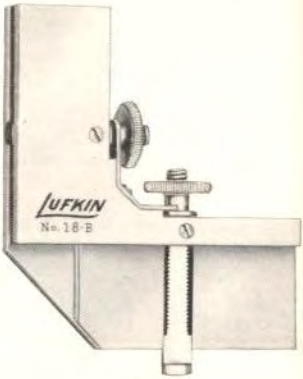
***Rapid Reading Graduations** mean subdivisions are numbered: 32nds every 4th division; 50ths every 5th division; 64ths every 8th division; 100ths every 10th division.

# Right Angle Rule Clamps

(Attachment for Combination Square)



Clamp Applied to Rule and Blade of Square



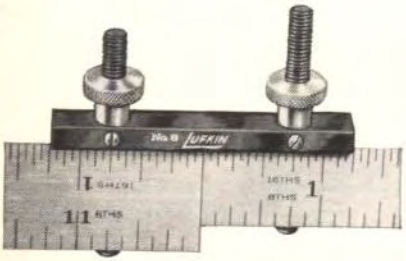

Rule Clamp

Used with Combination Square Blades and Heads these Rule Clamps afford many valuable applications. These Right Angle Rule Clamps will hold firmly at right angles a Combination Square Blade of 12, 18 or 24-inch length, and any regular steel rule not over 1-inch wide. Can also be applied to Thin Steel Squares, such as our No. 139.

A feature is the clip with prongs at each end. These prongs at all times hold both clamp nuts in place. Interference of the two bolts and nuts is eliminated and operations simplified as illustrated above. Thumb nuts are knurled and of good size.

| No. | Length of Blade Seats | | Body Inches |
|---|---|---|---|
| | Slotted Leg Inches | Open Leg Inches | |
| **18A** | $1\frac{7}{16}$ | $1\frac{3}{8}$ | $1\frac{1}{2}$x$1\frac{25}{32}$x$\frac{11}{32}$ |
| **18B** | $2\frac{7}{16}$ | $2\frac{3}{8}$ | $2\frac{5}{8}$x$2\frac{5}{16}$x$\frac{11}{32}$ |

# No. 8 Rule Clamps




Used when a measurement greater than the length of any single rule at hand must be accurately taken.

This clamp firmly holds two rules end to end, as shown.

As the clamp bolts are independently adjustable by means of knurled thumb nuts, this clamp will join two rules whether they be of same or different width or thickness.

The width capacity is $1\frac{1}{4}$ inches.

This device is in mottled blue finish.

It is popular because tool chests normally will not accommodate longer rules.

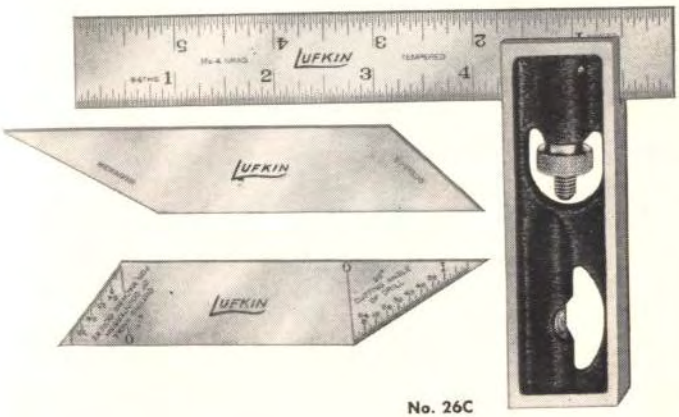
No. 8, Rule Clamp.

Packing: Four in a Box.

FOR PRICES SEE PRICE LIST

# Double Squares

## Tempered Blades




No. 26C

Handy for patternmakers, machinists and toolmakers.

Both faces of head are square; polished and enameled parts are well finished. Blade length adjustable by moving head. Head is securely set at any point by thumb screw. The heads of the 6-inch squares have level glass.

The square is furnished in various combinations with following blades:

STANDARD BLADE—in various graduations.

BEVEL BLADE—gives hexagon and octagon angles, and is so marked.

DRILL GRINDING BLADE—converts tool into a good drill grinding gage.

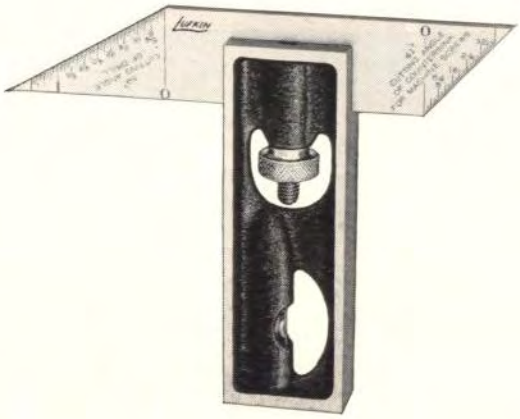
| No. | Length | Type Blade | Graduations |
|---|---|---|---|
| 26A | 4, 6 In. | With Graduated Blade Only | No. 4 (8ths, 16ths, 32nds, 64ths Inch) |
| 26B | 4, 6 In. | With Graduated and Bevel Blades | |
| 26C | 6 In. | With Graduated, Bevel and Drill Grinding Blades | |

**Note:** For Separate parts of Double Squares, see page 86.
For markings and uses of the Drill Grinding Blade, see page 86.

Packing: One in a Box.

# Drill Grinding Gage

**Tempered Blade**



An ideal Drill Grinding Gage for readily and accurately test cutting edges of drills and countersinks for proper angle, and point for proper centering. The extra wide face of head, to which drill is held, $\frac{9}{16}$ inch, is a most valuable feature.

The head is that of the 6-inch Double Square. Polished and enameled parts of head are well finished. Slotted blade slides readily in the head and may be securely set by thumb screw.

The bevel of blade at one end is 59 degrees, the cutting angle of drills; and at the other end 41 degrees, the cutting angle of countersinks for machine screws. The bevel ends are graduated to 64ths inch and have Rapid Reading graduations. The graduations measure at right angles to the face of the head which is parallel with the axis of the drill. Thus the center of drill is directly obtained by reading the graduation, the simplest and most accurate method of centering.

No. **26D,** Drill Grinding Gage Complete.

No. **26E,** Drill Grinding Blade Only for No. 26D.

**Note:** No. 26D with addition of Standard Blade and Bevel Blade is No. 26C, see page 85.

Packing: One in a Box.

## Separate Parts of Double Squares and Drill Grinding Gage

Standard (Graduated) 4 Inch Blade.

Standard (Graduated) 6 Inch Blade.

Drill Grinding Blade for Head of 6-Inch Square.

Bevel Blade for 4-Inch Square.

Bevel Blade for 6-Inch Square.

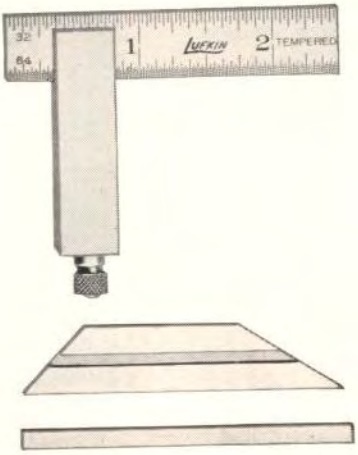
Head (or Stock) Only for 4-Inch Square.

Head (or Stock) Only for 6-Inch Square.

*FOR PRICES SEE PRICE LIST*

# Double Steel Squares

## With Hardened and Ground Head and Blades




Designed especially for the small work of tool and die makers.

Both faces of head (or stock) are square. All blades slide in head, permitting use in places where a square with fixed blade could not be used. Knurled thumb nut with tension spring serves to lock the blades securely.

This Double Steel Square is furnished in various combinations with the following blades:

STANDARD BLADE—Graduated one side only, upper edge 32nds, lower edge 64ths inch. Length, 2½ inches. Approximately ½ inch wide.

BEVEL BLADE—To determine 30 and 45-degree angles. Not graduated. Length, 2½ inches. Approximately ½ inch wide.

NARROW BLADE—Not graduated. Length 2½ inches. Width, ⅛ inch. Very handy for squaring small holes.

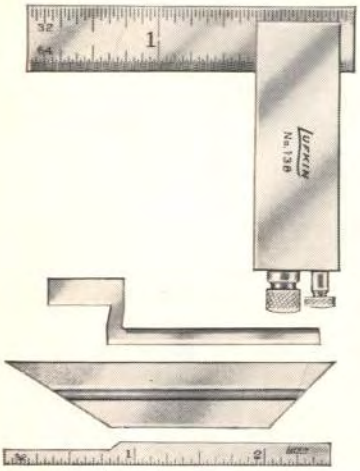
No. **137A,** Square with Standard Blade.

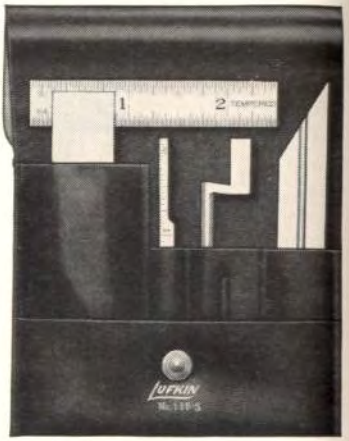
No. **137C,** Square Complete, with Standard, Bevel and Narrow Blades.

Packing: One in a Box.

# Diemakers Squares

## With Hardened and Ground Head and Blades




A Tool and Die Makers Square so designed that the blades not only slide in the head (or stock), but can be adjusted and set at angles with the head. This is particularly valuable in determining clearance in dies (see sectional view).

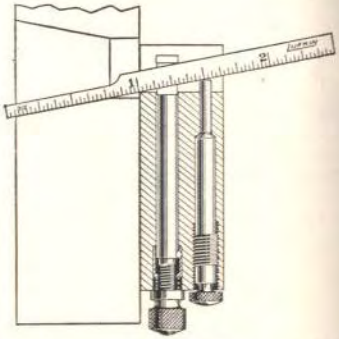
Both faces of the head are square. It has two knurled thumb screws. The larger will securely clamp blades in position, either straight or at an angle. The smaller is for setting any of the blades at an angle. To set blade at an angle, loosen the thumb screw which clamps blade, then turn the smaller thumb screw into the head. This action, as illustrated, adjusts blade to desired angle, which is then held by tightening the clamping screw.

This square is furnished in various combinations with the following blades:

STANDARD BLADE—Graduated one side only, upper edge 32nds, lower edge 64ths inch. Length, 2½ inches. Approximately ½ inch wide.

BEVEL BLADE—To determine 30 and 45-degrees angles. Not graduated. Length, 2½ inches. Approximately ½ inch wide.

NARROW BLADE—Graduated one side to 32nds inch. Cut away on one end ¾-inch back, making blade size $\frac{3}{32}$ inch by $\frac{1}{16}$ inch, for use in very small places. Length, 2½ inches. Approximately $\frac{5}{32}$ inch wide.



OFFSET BLADE—Used in places where it is difficult to sight with the straight blade. The offset end of blade is approximately ⅛ inch wide and extends from the stock about 1½ inches. Both sides of each edge are beveled, to give a line contact. Not graduated.

No. **138A,** Square with Standard Blade.

No. **138C,** Square with Standard, Bevel and Narrow Blades.

No. **138CX,** Square Complete, with Standard Bevel, Narrow and Offset Blades.

No. **138S,** Consists of No. 138CX in Fitted Case.

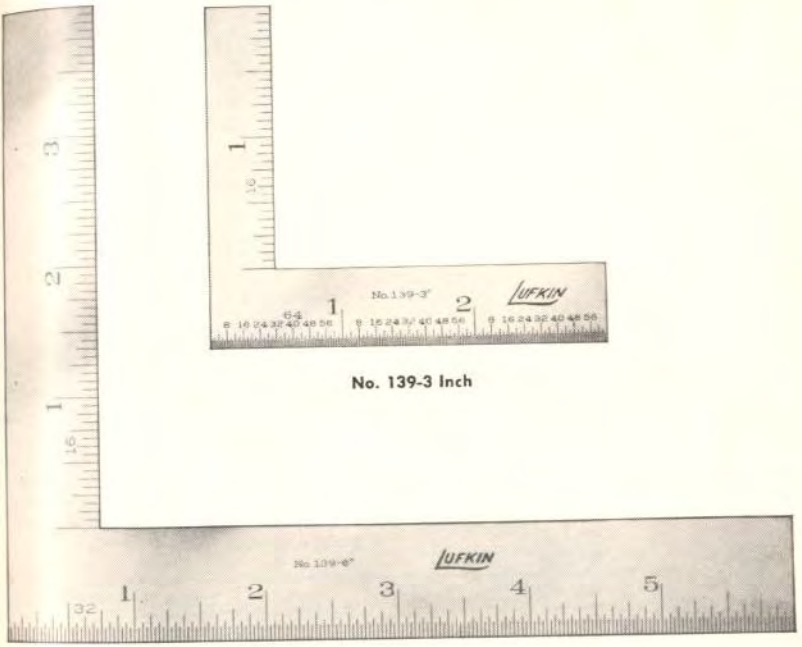
Packing: One in a Box.

**FOR PRICES SEE PRICE LIST**

# Thin Steel Squares




**No. 139-3 Inch**




**No. 139-6-Inch**

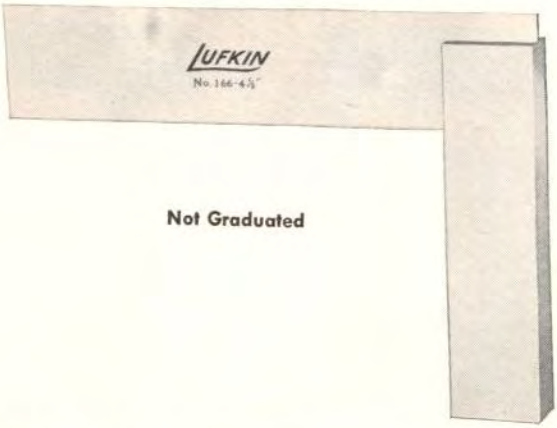
Used by draftsmen, pattern makers, tool makers, machinists and others for layout work.

Lufkin thin squares are graduated on one inside edge and one outside edge on both sides.

| No. Size | Graduations | Blade Length Inches | Blade Thickness Inches |
|---|---|---|---|
| **139-3 Inch** | {16ths and 64ths Inch One Side; 32nds and 64ths on Other; Rapid Reading Graduations, 64ths Numbered Every 8th Division | 3x2 | 1/20 |
| **139-4 Inch** | 16ths and 32nds on Both Sides | 4x3 | 1/16 |
| **139-6 Inch** | 16ths and 32nds on Both Sides | 6x4 | 1/16 |

Packing: Three in a Box.

# Hardened Solid Steel Squares




**Not Graduated**

Used as a master square for checking close work.

Extreme care is exercised in the manufacture of Lufkin Hardened Steel Squares, your assurance of accuracy.

Blade is securely fitted to ground seat of beam.

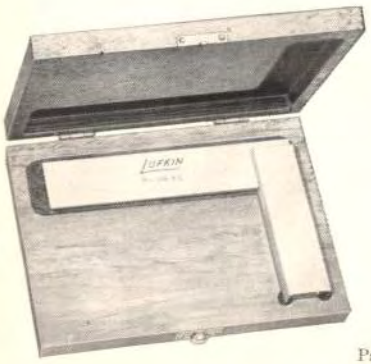
Both blade and beam are lapped for accuracy.

Clearance for burrs or dirt is compensated for by a groove at the inner corner of the beam.

Wood cases are available for protecting these precision squares. They are supplied only when specified.

| No. | Size or Length Blade | Length Beam, Inches | No. | Size or Length Blade | Length Beam, Inches |
|---|---|---|---|---|---|
| 166-1 ½ Inch | | 1 3/16 | 166-6 Inch | | 4 3/8 |
| 166-3 Inch | | 2 3/16 | 166-12 Inch | | 7 1/16 |
| 166-4 ½ Inch | | 3 ½ | | | |

# Wood Cases




Hardened Steel Squares should have the protection of a fitted case. A case well built of choice wood with hinged cover and clasp is supplied only when ordered.

Case for 1½-Inch Square.

Case for 3-Inch Square.

Case for 4½-Inch Square.

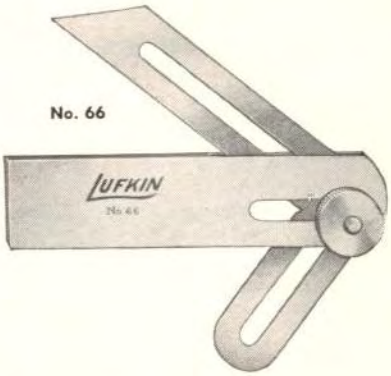
Case for 6-Inch Square.

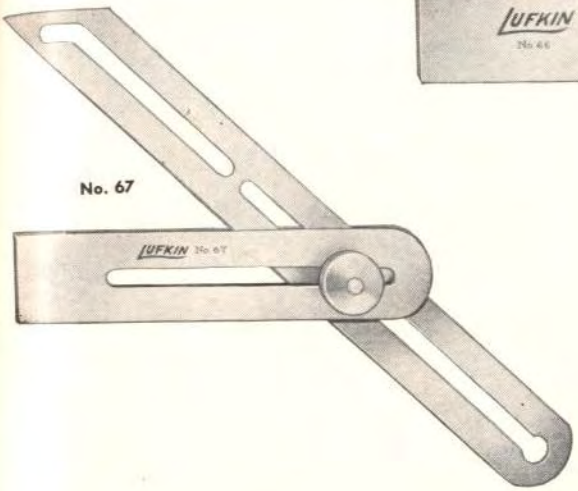
Case for 12-Inch Square.

Packing: One in a Box.

FOR PRICES SEE PRICE LIST

# Universal Bevels




**No. 66**

A very popular tool, necessary in many classes of work. Blade and stock are so slotted and shaped that any angle may be obtained. Spring provides constant tension and blade can be locked firmly at any angle with the knurled thumb nut. Head of clamping bolt sets in a recess, allowing stock to lie flat on the work. Arm of the blade having beveled end is 3 inches long. Stock is 3 inches long, and, while slotted, is solid on one edge for 1¾ inches, forming a rest under the blade against which even thin work may be placed and accurately fitted.

No. **66** Universal Bevel.

**No. 67**

This tool, having both straight and offset slots in blade and long slot in stock, will take adjustments and angles which cannot be obtained with any common bevels. Blade is 6 inches long; stock 3½ inches. Spring provides constant tension and knurled thumb nut locks blade in any desired angle. Head of clamp bolt sets in a recess, allowing stock to lie flat on the work.

No. **67** Universal Bevel.

**Note:** No. 67 Bevel can be used with No. 893 Protractor, listed on page 93.

Packing: One in a Box.

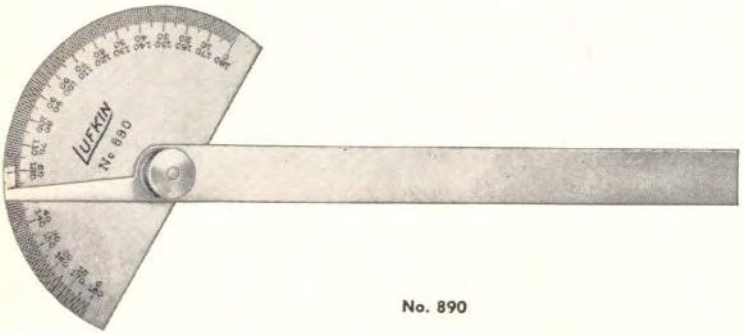


*FOR PRICES SEE PRICE LIST*

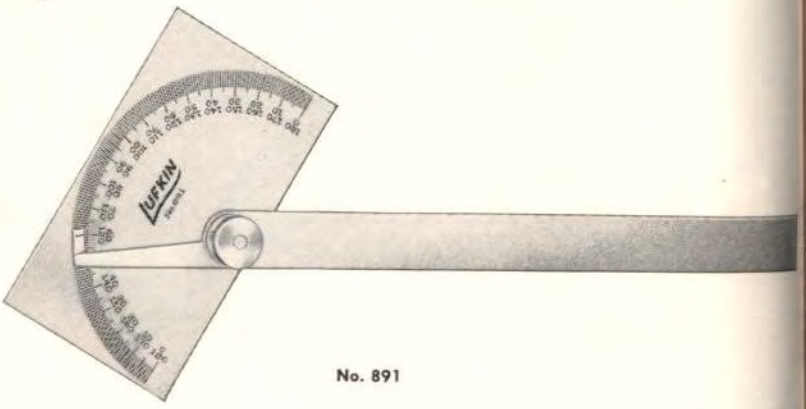
# Steel Protractors

**For Machinists, Draftsmen and Other Mechanics**

**For Setting Bevels, Transferring Angles, Etc.**




**No. 890**




**No. 891**

The head is graduated in degrees from 0 to 180, and has two rows of figures reading in opposite directions. The indicating arm of the blade has a line graduation for accurately setting and reading the Protractor. The blade is six inches long and has spring giving constant tension. The blade can be securely set by means of the knurled thumb nut.

**No. 890** has semi-circular head with back finished flat.

**No. 891** is the same as No. 890 except with rectangular head which gives four working faces.

**No. C891** protractor with Chrome Clad non-glare satin finish.

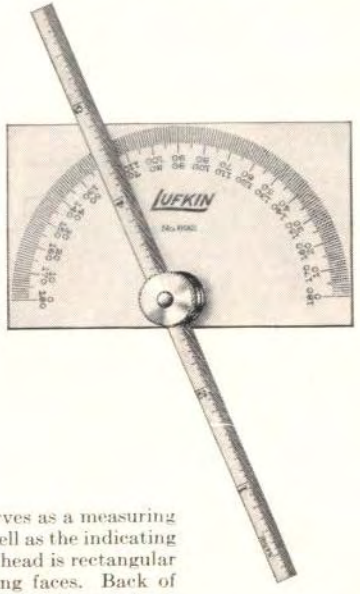
Packing: One in a Box.

***FOR PRICES SEE PRICE LIST***

# No. 892 Steel Protractor and Depth Gage

**For Machinists, Draftsmen, Etc.**

**For Setting Bevels, Transferring Angles and Gaging Depths**




The blade of this gage serves as a measuring blade of the depth gage as well as the indicating arm of the protractor. The head is rectangular in shape giving four working faces. Back of head is flat. Head is graduated in degrees from 0 to 180 and has two rows of figures reading in opposite directions. The blade of this Protractor is our regular narrow pattern, machine divided scale No. 2310, six inch, graduated one side 64ths, other side 32nds inch. The spring clamping device provides constant tension and the knurled thumb nut secures the blade at any angle or at any extended length.

No. **892,** Protractor and Depth Gage.

No. **C892,** Protractor with Chrome Clad Non Glare Satin Finish.

**Note:** Blade graduated 64ths and 100ths (No. 2311 Rule) furnished with above when specified, without extra charge.

Packing: One in a Box.

# Dial Test Indicators

No. 49A

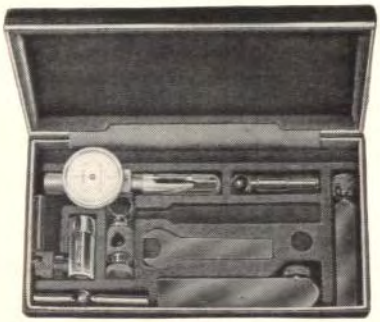
- Rigid Steel Body Assures Proper Alignment of Movement For Smooth, Nonsticking Operation
- Chrome Clad Finish on Body
- Jewelled Movement
- Positive Action Switch Lever Reverses Point Action
- 180° Operation Range
- .030 Range Graduated to .001 Inch
- Sensitive Contact Pressure
- Complete Range of Accessories

No. 49B

The No. 49 Indicator is a rugged versatile tool with wide range of adaptability. Can be used with magnet base, indicator holders, surface gages and machi chucks. All indicators are furnished with contact poi .100 diameter.

No. 49A set consists of Indicator with body clam long and short arm and Universal shan Complete with case.

No. 49B set consists of Indicator with Univers Friction Holder and Universal shank, ideal set for JIG BORER, Milling Machi and set up work. Complete with case.



No. 498X

No. 49BX set—A complete set consisting of Indicat Body Clamp, Universal Shank, Univers Friction Holder, Long and short ar Surface Gage attachment, Height Ga attachment, a .030 and .062 contact poi Complete with case.

Packing: One in a Box.

FOR PRICES SEE PRICE LIST

# Dial Test Indicators

## Attachments

### CONTACT POINTS

Three sizes are available. The No. 49-62 is regularly furnished with the indicator. Also available with carbide tips.

| Regular No. | Ball Dia. | Carbide Tips No. | Ball Dia. |
|---|---|---|---|
| 49-60 | .030 | CT 49-60 | .030 |
| 49-61 | .062 | CT 49-61 | .062 |
| 49-62 | .100 | CT 49-62 | .100 |

**No. 49-63 Body Clamp**

Regularly furnished with No. 49A and No. 49BX Indicators.

49-63

**No. 49-44 Universal Shank**

Furnished with Nos. 49A, 49B, and 49BX Indicators. For holding indicator in lathe tool post holders and on 18 and 24 inch surface gages.

49-44

**No. 49-45 Long and Short Arm**

Regularly furnished with No. 49A and No. 49BX Indicators. Increases application. With No. 49-63 Body Clamp, it permits a vast range of offset settings.

49-45

**No. 49-66 Universal Friction Holder**

Furnished with Nos. 49B and 49BX Indicators, it can also be used to convert No. 49A to jig boring and other machine work. Ball swivel joint permits a wide range of settings.

49-66

**No. 49-47 Height Gage Attachment**

Fits into body clamp, permits use of indicator on 12″ height gages.

49-47

**No. 49-48 Surface Gage Attachment**

Furnished with 49BX Indicators. Replaces ball shank in No. 49-66 Universal Friction Holder. Shank diameter fits all size surface gages.

49-48

**No. 49-59 Height Gage Attachment**

Furnished with No. 49BX Indicator. Interchanges with No. 49-66 Universal Friction Holder. Converts indicator for attachment to 12″ height gages.

49-59

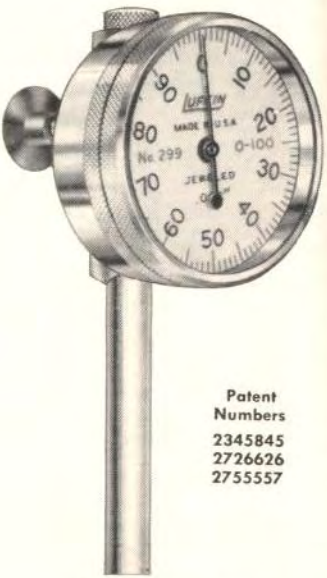
**No. 49-50 Triple Section Attachment**

Fits into No. 49-63 Body Clamp. Two friction joints increase the variety of settings available. The ⅜″ shank fits larger machine chucks.

49-50

# Universal Dial Test Indicators


Series No. 299 Indicator with Hole Attachment Assembled




**Patent Numbers**

2345845
2726626
2755557

Series No. 299 Indicator


Series No. 399 Indicator with Hole Attachment Assembled

Simplified design with minimum number of parts—lighter weight.

One-piece base and shank for greater strength.

All working parts mounted on base.

Hole attachment screwed directly into base—no supporting arms needed.

Longer hole attachment reaches into deeper holes.

Hole attachment is directly engaged to indicator shaft.

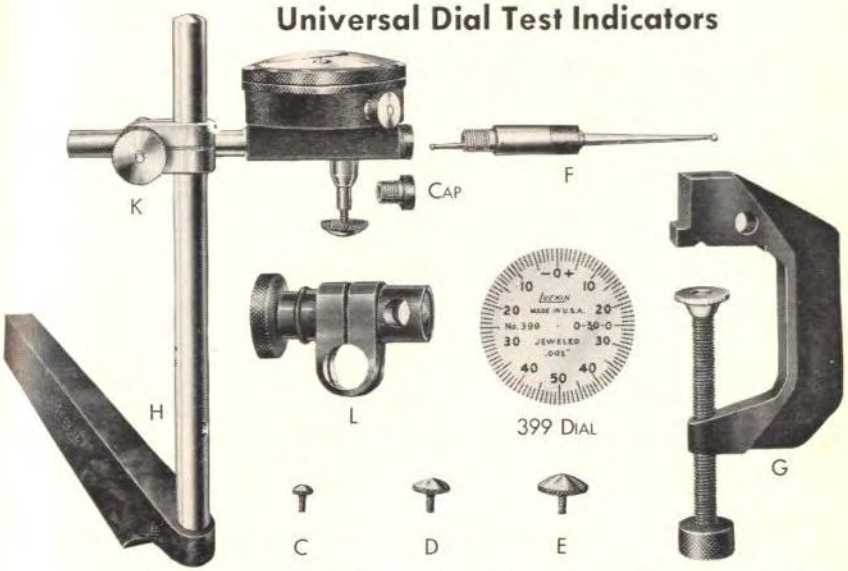
No. 399A has bezel clamp for adjusting tension or locking in position.

Gage has full .200-inch range, clearly marked, easy to read.

Sensitive plunger, supplied with three contact points.

Jeweled bearing assures greater accuracy—longer life.

# Universal Dial Test Indicators




Has a 1½-inch diameter dial and a contact point attached to a spindle or plunger which extends out of back of case perpendicular to dial. Slightest movement of contact point is indicated on the dial face by the pointer hand.

Entire mechanism is mounted on a bar which forms the base of the indicator and the shank by which it is held. Has jeweled thrust bearing. Simplicity of mechanism excludes customary train of gears.

Outside knurled ring, know as bezel, contains dial and is adjustable so that zero can be set to any position in relation to pointer.

No. 399A reads clockwise from 0 to 50 and from 50 back to zero. The dial has 100 graduations measuring .001 inch each, therefore one revolution of the hand represents .100 inch. The indicator has a range or spindle travel of .200 inch or two revolutions of the hand while the hole attachment has a range of .125 inch. A bezel clamp is provided to either adjust the tension on the bezel or to firmly lock it in position.

No. 299A is the same as No. 399A except it is not equipped with the bezel clamp and the reading on the dial is 0 to 100 instead of 0-50-0.

The 299P and 399P Hole attachment reversing sleeve is used for reversing the direction of the hole attachment.

Attachments are interchangeable for both Nos. 299A and 399A.

| With 0 to 100 Dial, No. | With 0-50-0 Dial, No. | Description |
|---|---|---|
| 299A | *399A | Indicator Complete with Attachments in Fitted Wood Box |
| 299B | *399B | Indicator Only and Three Contact Points, 3/16, 3/8 and 1/2 Inch |
| 299C | 399C | 3/16-Inch Diameter Contact Point Only |
| 299D | 399D | 3/8-Inch Diameter Contact Point Only |
| 299E | 399E | 1/2-Inch Diameter Contact Point Only |
| 299F | 399F | Hole Attachment |
| 299G | 399G | Clamp 1¼-Inch Capacity, Flat or Round with Spindle |
| 299H | 399H | Tool Post Holder Attachment (5/8x3/4x6 Inches) with Upright Spindle |
| 299K | 399K | Sleeve Attachment ¼ and 5/16-Inch Holes |
| 299L | 399L | Sleeve Attachment ¼ and 3/8-Inch Holes (Not Included with Complete Indicator) |
| 299N | 399N | Cap |
| 299P | 399P | Hole Attachment Reversing Sleeve |

*Furnished with bezel lock.

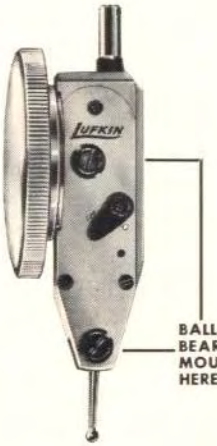


Packing: One in a Fitted Case.

FOR PRICES SEE PRICE LIST

# Dial Test Indicators


No. V32X




No. V32

## Precision made to exacting specifications

**Wide Range for Every Application.**

**Clear, Easy-to-Read Graduations.**

**Contact Point Swivels 180°.**

**Chrome Clad Finish.**

**Revolution Counters on all Indicators Graduated to .0001".**

**Hard Chrome Contact Points Regularly Furnished.**

**Tungsten Carbide Tipped Contact Points Also Available.**

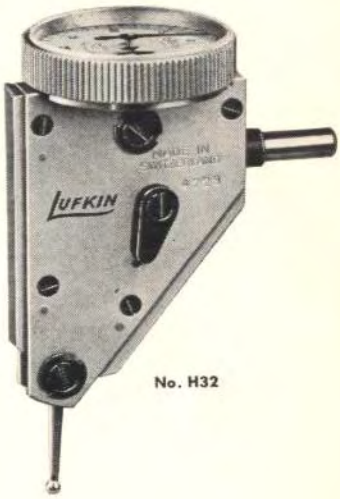
**SPECIFICATIONS**

| Number | Type | Graduation | Range | Reads | Dial Dia. | Contact Point Length |
|---|---|---|---|---|---|---|
| **V32** | Vertical | .0001 | .032 | 0-20-0 | 1" | .550 |
| **V32X** | | .0001 | .032 | 0-20-0 | 1 9/16" | .550 |
| **V60** | | .0005 | .060 | 0-15-0 | 1" | .510 |
| **V60X** | | .0005 | .060 | 0-15-0 | 1 9/16" | .510 |
| **V80** | | .0005 | .080 | 0-5-0 | 1" | 1.500 |
| **V80X** | | .0005 | .080 | 0-5-0 | 1 9/16" | 1.500 |
| **H32** | Horizontal | .0001 | .032 | 0-20-0 | 1" | .550 |
| **H32X** | | .0001 | .032 | 0-20-0 | 1 9/16" | .550 |
| **H60** | | .0005 | .060 | 0-15-0 | 1" | .510 |
| **H60X** | | .0005 | .060 | 0-15-0 | 1 9/16" | .510 |
| **H80** | | .0005 | .080 | 0-5-0 | 1" | 1.500 |
| **H80X** | | .0005 | .080 | 0-5-0 | 1 9/16" | 1.500 |

***FOR PRICES SEE PRICE LIST***

# Dial Test Indicators


No. H32X




No. H32

**with these many outstanding features . . .**

- Exclusive Ball Bearing Mounting increases Sensitivity.
- Adjustable Bezel.
- Jewelled Movement.
- Switch Lever for Full Reverse Action.
- Both Vertical and Horizontal Models.
- Each Indicator Packed in Handsome, Plush Lined Case with Hinged Lid and Snap Fastener.

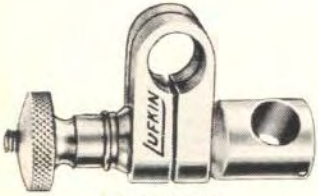
## CONTACT POINTS

| For Indicator Numbers | Hard Chrome | | | Tungsten Carbide | | |
|---|---|---|---|---|---|---|
| | Number | Ball Diameter | Length | Number | Ball Diameter | Length |
| H32, H32X, V32, V32X | PM30 | .030 | .550 | CTM30 | .030 | .550 |
| | PM50 | .050 | .550 | CTM50 | .050 | .550 |
| | PM80 | .080 | .550 | CTM80 | .080 | .550 |
| H60, H60X, V60, V60X | P30 | .030 | .510 | CT30 | .030 | .510 |
| | P50 | .050 | .510 | CT50 | .050 | .510 |
| | P80 | .080 | .510 | CT80 | .080 | .510 |
| H80, H80X, V80, V80X | PL30 | .030 | 1.500 | CTL30 | .030 | 1.500 |
| | PL50 | .050 | 1.500 | CTL50 | .050 | 1.500 |
| | PL80 | .080 | 1.500 | CTL80 | .080 | 1.500 |



FOR PRICES SEE PRICE LIST

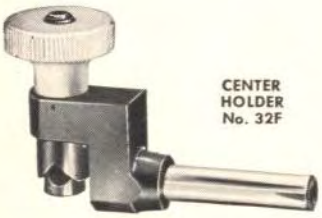
SPINDLE CLAMP
No. 32C




SPINDLE CLAMP
No. 520K

HALF-ROUND HOLDER
No. 32K

UNIVERSAL HOLDER
No. 32A



CENTER
HOLDER
No. 32F

JOINTED
INDICATOR
HOLDER
No. 32M

# Indicator Attachments

These versatile attachments adapt indicators for most any application.

## SPINDLE CLAMP

For holding indicators on surface gages or Miti-Mite Magnetic Base Indicator Holders.

| Number | Spindle Hole | Indicator Shank Hole |
|---|---|---|
| **32C** | 1/4" | 5/32" |
| **520J** | 5/16" | 5/32" |
| **520K** | 5/16" | 1/4" |
| **520M** | 7/32" | 5/32" |

## HALF ROUND HOLDER

Required for many special applications. Two point position adjustment. Fully hardened. For shank or dovetail fitting.

| Number | Post Diameter | Indicator Shank Hole |
|---|---|---|
| **32K** | 1/4" | 5/32" |

## UNIVERSAL HOLDER

For holding indicators on vernier height gages or on tool posts. Hardened and ground steel shank. For shank or dovetail fitting.

| Number | Shank Size | Indicator Shank Hole |
|---|---|---|
| **32A** | 5/16" x 5/16" | 5/32" |
| **32B** | 1/4" x 1/2" | 5/32" |

## CENTER HOLDER

Designed for use in machine chuck. All steel, hardened and ground. For shank or dovetail fitting.

| Number | Post Diameter | Indicator Shank Hole |
|---|---|---|
| **32F** | 1/4" | 5/32" |
| **32G** | 5/16" | 5/32" |

## JOINTED INDICATOR HOLDER

Will attach to indicator stem.

A rigid and extremely versatile holder manufactured of hardened steel, and finished in dull blue. When fully extended the holder is 5½" long. It may be swiveled thru 275° at the first joint and will fit into a 1/4" or 3/8" chuck. It may be disassembled into sections and used as two separate holders.

Furnished with a key to lock holder in position.

No. **32M,** Jointed Indicator Holder.

***FOR PRICES SEE PRICE LIST***

# "Miti-Mite" Magnetic Base Tools
## Universal Dial Test Indicator
### With Magnetic Base Holder

No. 2299 Indicator and Magnetic Holder Set

Now in one complete set—a precision Universal Dial Test Indicator and a Magnetic Base Indicator Holder. A complete range of set-ups for practically every type of indicating can be made from the tools and attachments in this compact, mahogany, fitted case.

**THE DIAL INDICATOR** may be either the Lufkin No. 299 series with an 0 to 100 dial or the Lufkin No. 399 series with an 0-50-0 dial. The indicator has a range or spindle travel of .200 inch by .001 inch, while the hole attachment has a range of .125 inch. Jeweled bearings. Adjustable bezel and dial. No. 2399 has bezel clamp to adjust tension or lock dial in position. Indicator attachments include 3 contact points, an adjustable spindle clamp, and a hole attachment.

**THE MAGNETIC BASE HOLDER** attaches instantly to any round or flat ferrous surface. The post swivels in a ball joint and locks securely with a turn of the large, knurled nut. A friction joint in the post increases the range of adjustments. A fine adjustment screw permits final, precise settings. Interchangeable posts and an adaptor are included.

**No. 2299** 0 to 100 Indicator and Magnetic Holder Set
**No. 2399** 0-50-0 Indicator and Magnetic Holder Set

Packed: One Set in a Fitted Case



FOR PRICES SEE PRICE LIST

# Dial Test Indicator Sets

No. V60XB

A Dial Test Indicator and two of the most frequently used attachments packed in a handsome, snap-lid case. Each set includes a 32C Spindle Clamp and a 32F Center holder. Compartments are provided in the case for a complete assortment of indicator clamps, holders, and accessories. Protects indicator and attachments . . . keeps them together in one handy case, ready for use.

A molded compartment is included in the case for each of the following:

Dial Test Indicator
**32A** Universal Holder
**32C** Spindle Clamp
**32F** Center Holder
**32M** Jointed Holder
Allen Wrench for **32M**
Extra Contact Points
**520J** Spindle Clamp
**520M** Spindle Clamp

No. **H32B** Set with H32 Indicator
No. **H32XB** Set with H32X Indicator
No. **V32B** Set with V32 Indicator
No. **V32XB** Set with V32X Indicator
No. **H60B** Set with H60 Indicator
No. **H60XB** Set with H60X Indicator
No. **V60B** Set with V60 Indicator
No. **V60XB** Set with V60X Indicator

Packed: One per box. Shipping Weight: 1 lb. each.

*Complete description of each indicator and each attachment appears on pages 98 to 100.*

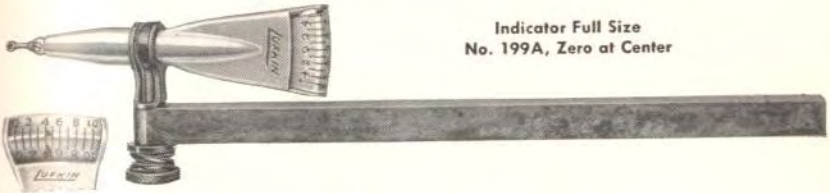
***FOR PRICES SEE PRICE LIST***

# Universal Indicators

(Patented)

**Rotating Head • Positive Lock • Two Reading Faces**

**Can Be Used and Read in Any Practical Position**



Indicator Full Size
No. 199A, Zero at Center



No. 199,
Zero at
Extreme Left

A valuable exclusive feature of this indicator is the location of reading faces, one being on the flat side, the other on the end or top. This end marking often makes reading easier and makes possible reading without a mirror in jig boring, milling machine, drill press and similar work. Reading at end is the convenient way when using indicator with Surface Gage or Vernier Height Gage. In fact, it is the most natural and handy way in many kinds of work.

The indicator, which is one unit, makes a complete revolution on its own center and also on clamping bolt; all locked in position by one thumb nut. The contact point can be set in any position in a half circle and is frictionally held.

As illustrated, a standard bar for general use and a special attachment are furnished with each indicator. The special attachment is used in drill chuck or with surface gage, and affords many other setups. Using its offset arm, this indicator will enter very small holes, contact point being in line with rotating center. Clamping device is a nut, spring and washer held together as one unit. During setup, it frictionally holds the indicator in position.

Contact point and all working parts are hardened. Housing is of tough, rustproof metal; clamp screw and nut are of steel.

Ideal protection for this fine tool is a plush-lined case with spring-hinged cover. Furnished only when ordered.

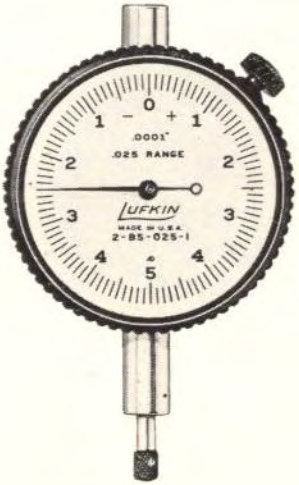
No.
520K

| No. | Item |
|---|---|
| 199 | Indicator; Zero at Extreme Left, Reading Left to Right |
| 199A | Indicator; Zero Reading at Center. Reading to the Left and to the Right |
| 520K | Indicator Attachment—Spindle Clamp with 5/16-Inch Hole for Surface Gage Rod |
| .... | Special Diameter Contact Points 1/32, 1/16 or 1/8-Inch (Specify Size) |
| .... | Plush-Lined Case for No. 199 or 199A |

Packing: One in a Box.

# Dial Indicators

**Sustained Accuracy · Low Friction · Precision Instruments for checking and measuring**




**Simplified Advance Design**

**Four Series: A.G.D. Groups 1, 2, 3, & 4**

**Precision built for long life**

**Full jeweled or plain bearings**

**Rugged solid brass forged case**

**No die castings used on any movement parts**

**Pivots, gears, rack and pinion are made of high chrome stainless steel—Rust and Wear Resistant**

**Metal Dials have dull white Non-Glare background with fine graduations for easy reading**

**Shock cushioned models available**

**Movement is inserted from top for ease of maintenance**

**Available with balanced or continuous dials**

Lufkin Dial Indicators are made to A.G.D. AD Specifications with the exception of long range models.
Special dials can be furnished. Prices on request.

*FOR PRICES SEE PRICE LIST*

# Dial Indicators

Case only

Case—a rugged solid brass forging. No die castings are used on any moving parts.

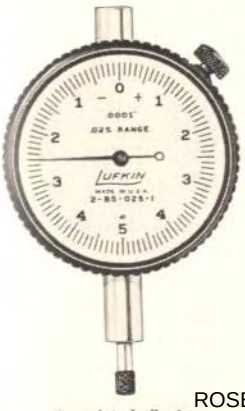
Movement only

Movement is independently supported for better bearing alignment and positive gear engagement. The movement is mounted on heavy section of the case providing a very rigid and firm support. Supporting plates are solid bearing brass eliminating additional bushings and reducing mounting errors. Pivots, gears, rack and pinion are made of high Chrome stainless steel which is rust and wear resistant. All pivots are highly burnished for reduction of friction. Hair spring is Non-Magnetic. The movement is assembled from the top for ease of maintenance.

Back

Back has 4 screw holes to index at 90° or positioning in four positions.

Jeweled Indicators are full jeweled to reduce friction throughout the entire unit.



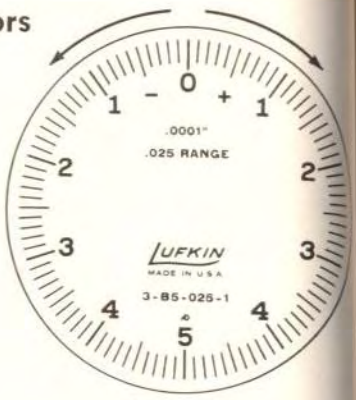

Complete Indicator

Case and Stem are hard Chrome plated. The bezel has a dull-black Non-Glare finish. Knurling on the bezel is modern for good finger grip. Improved eccentric bezel lock is positive and will not drop out. Lens is unbreakable, Non-shrinking Plastic. Stem and spindle base are machined in one setting insuring concentricity. Stem can be threaded with 3/8-24 thread at additional cost.

Spindle Bearing is easily replaced if necessary.

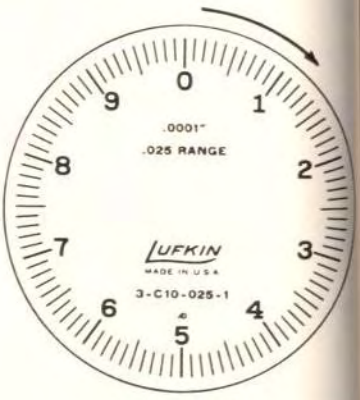
# Dial Indicators

Balanced Dials have graduations on both sides of zero. Plus (+) designation to the right and minus (−) to the left of zero. Balanced dials are normally used for comparative work.




Balanced Dial

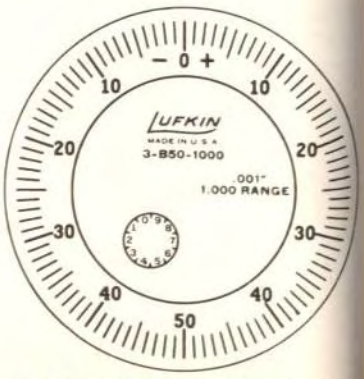
Continuous Dials have graduations numbered continuously around the dial, usually in clockwise direction. Continuous Dials are normally used for direct measuring.




Continuous Dial

Long Range Dials with revolution counter shows which revolution of the range hand is being read Rotating the bezel and dial setting of zero at any position.

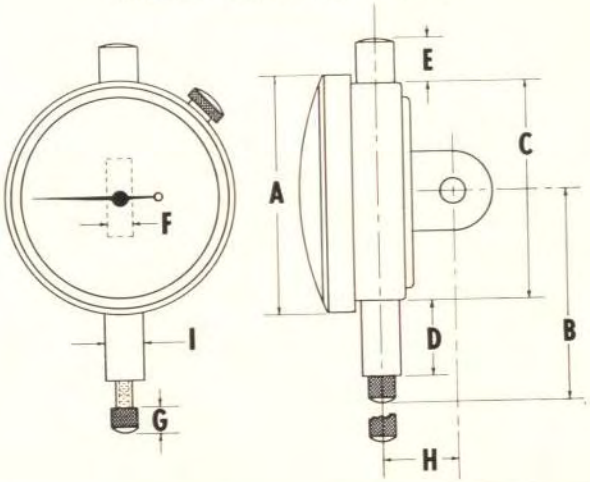
Special Dials can be furnished.
Your inquiries will be given prompt attention.




Long Range Dial with Revolution Counter

# Dial Indicators
## American Gage Design Standards

AD Symbol indicates that it is an American Gage Design Standard

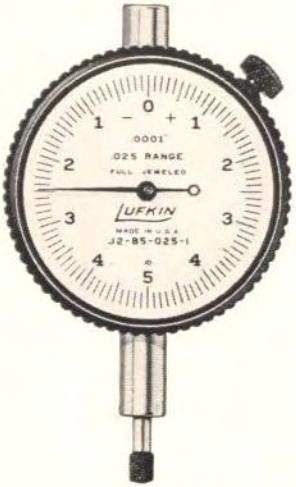


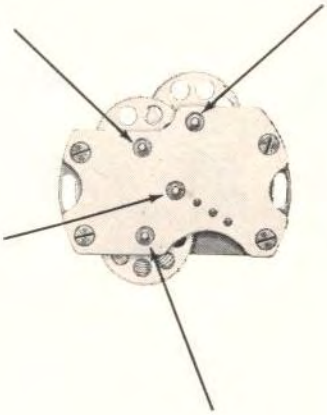

| Dimensions In Inches | A AD | B AD | C | D | E | F AD | G AD | H AD | I |
|---|---|---|---|---|---|---|---|---|---|
| Group 1 | $1\frac{11}{16}$ | $1\frac{5}{8}$ | $1\frac{17}{32}$ | $\frac{5}{8}$ | $\frac{7}{16}$ | $\frac{1}{4}$ | $\frac{1}{4}$ | $\frac{3}{4}$ | .375 |
| Group 2 | $2\frac{1}{4}$ | 2 | $2\frac{1}{16}$ | $\frac{33}{32}$ | $\frac{7}{16}$ 1" Range $1\frac{5}{16}$ | $\frac{1}{4}$ | $\frac{1}{4}$ | $\frac{3}{4}$ | .375 |
| Group 3 | $2\frac{3}{4}$ | $2\frac{1}{8}$ | $2\frac{5}{16}$ | $\frac{5}{8}$ | $\frac{7}{16}$ 1" Range $1\frac{5}{16}$ | $\frac{1}{4}$ | $\frac{1}{4}$ | $\frac{3}{4}$ | .375 |
| Group 4 | $3\frac{5}{8}$ | $2\frac{9}{16}$ | $3\frac{7}{16}$ | $\frac{5}{8}$ | No Cap 1" Range $\frac{1}{2}$ | $\frac{1}{4}$ | $\frac{1}{4}$ | $\frac{3}{4}$ | .375 |

## KEY TO NUMBERING SYSTEM

| 8 | J | 2 | B | 5 | 025 | 1 |
|---|---|---|---|---|---|---|
| Indicates Shock Cushioned | Indicates Jeweled | Designates AGD Group | Indicates balance Dial Letter C would indicate continuous | Indicates number of graduations | Indicates total travel range | Indicates Graduation value 1 Indicates .0001" 25 Indicates .00025" 5 Indicates .0005" No number indicates .001" |

# Jeweled Dial Indicators

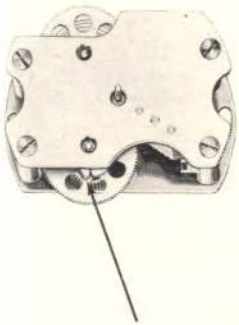


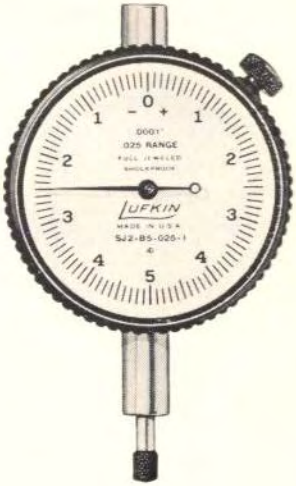



In Lufkin Jeweled Indicators all bearings are jeweled. Friction within the movement is reduced to a minimum providing greater sensitivity and longer life. High Quality, olive shaped jewels are used in Lufkin Dial Indicators to reduce bearing surface and maintain shaft alignment.

Arrows in above diagram show location of jeweled bearings.

# Dial Indicators





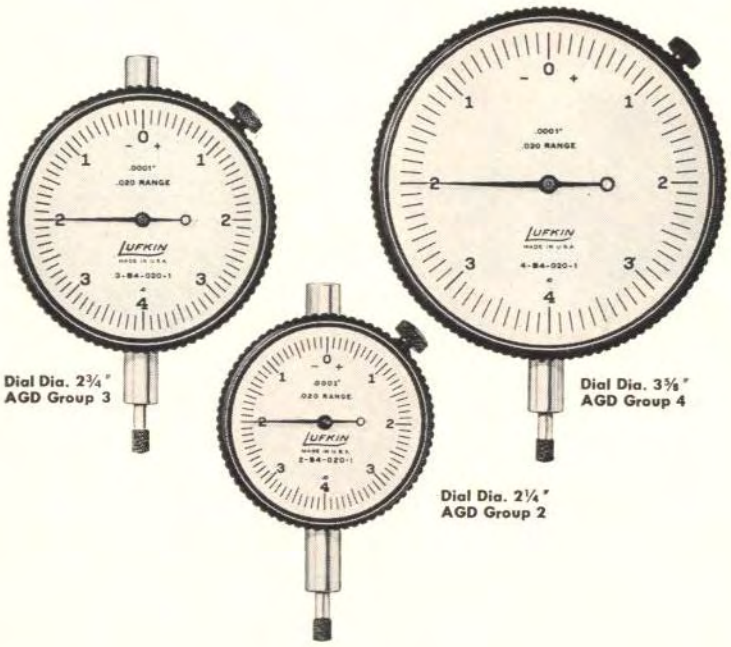

## Shock Cushioned

The Lufkin "Shock Cushion" movement is unique because of its ability to protect the rack teeth and gear train from sudden shock without the addition of extra compensating springs or sliding sleeves. The pressure against any tooth is no more than normally exerted by the hair spring. The construction permits this feature to be used in all indicators including 1" range graduated in thousands and .200" graduated in tenths.

Specify "Shock Cushion" for all applications where the indicator is subjected to sudden blows, excessive vibration or extremely hard usage. It will protect the gear teeth and materially increase the life of the gage.

# .0001 Dial Indicators

**Graduation .0001″ Range .020″**




## BALANCED DIALS

| Catalog No. Jeweled Shock Cushioned | Catalog No. Jeweled | Catalog No. Plain | Diameter Inches | Reading | Range Inches | Graduation Inches | Revolutions of Hand |
|---|---|---|---|---|---|---|---|
| SJ2-B4-020-1 | J2-B4-020-1 | 2-B4-020-1 | 2¼ | 0–4–0 | .020 | .0001 | 2½ |
| | J3-B4-020-1 | 3-B4-020-1 | 2¾ | 0–4–0 | .020 | .0001 | 2½ |
| | J4-B4-020-1 | 4-B4-020-1 | 3⅜ | 0–4–0 | .020 | .0001 | 2½ |

## CONTINUOUS DIALS

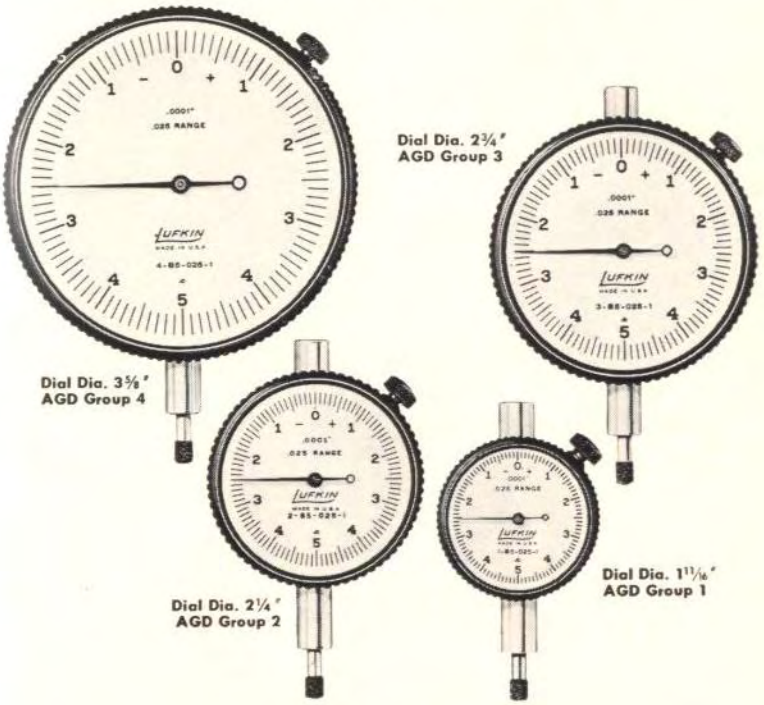
| Catalog No. Jeweled Shock Cushioned | Catalog No. Jeweled | Catalog No. Plain | Diameter Inches | Reading | Range Inches | Graduation Inches | Revolutions of Hand |
|---|---|---|---|---|---|---|---|
| SJ2-C8-020-1 | J2-C8-020-1 | 2-C8-020-1 | 2¼ | 0–8 | .020 | .0001 | 2½ |
| | J3-C8-020-1 | 3-C8-020-1 | 2¾ | 0–8 | .020 | .0001 | 2½ |
| | J4-C8-020-1 | 4-C8-020-1 | 3⅜ | 0–8 | .020 | .0001 | 2½ |

Packed one in a box.

*FOR PRICES SEE PRICE LIST*

# .0001 Dial Indicators

**Graduation .0001″ Range .025″**




## BALANCED DIALS

| Catalog No. Jeweled Shock Cushioned | Catalog No. Jeweled | Catalog No. Plain | Diameter Inches | Reading | Range Inches | Graduation Inches | Revolutions of Hand |
|---|---|---|---|---|---|---|---|
| | J1-B5-025-1 | 1-B5-025-1 | 1¹¹⁄₁₆ | 0–5–0 | .025 | .0001 | 2½ |
| SJ2-B5-025-1 | J2-B5-025-1 | 2-B5-025-1 | 2¼ | 0–5–0 | .025 | .0001 | 2½ |
| SJ3-B5-025-1 | J3-B5-025-1 | 3-B5-025-1 | 2¾ | 0–5–0 | .025 | .0001 | 2½ |
| SJ4-B5-025-1 | J4-B5-025-1 | 4-B5-025-1 | 3⅝ | 0–5–0 | .025 | .0001 | 2½ |

## CONTINUOUS DIALS

| Catalog No. Jeweled Shock Cushioned | Catalog No. Jeweled | Catalog No. Plain | Diameter Inches | Reading | Range Inches | Graduation Inches | Revolutions of Hand |
|---|---|---|---|---|---|---|---|
| | J1-C10-025-1 | 1-C10-025-1 | 1¹¹⁄₁₆ | 0–10 | .025 | .0001 | 2½ |
| SJ2-C10-025-1 | J2-C10-025-1 | 2-C10-025-1 | 2¼ | 0–10 | .025 | .0001 | 2½ |
| SJ3-C10-025-1 | J3-C10-025-1 | 3-C10-025-1 | 2¾ | 0–10 | .025 | .0001 | 2½ |
| SJ4-C10-025-1 | J4-C10-025-1 | 4-C10-025-1 | 3⅝ | 0–10 | .025 | .0001 | 2½ |

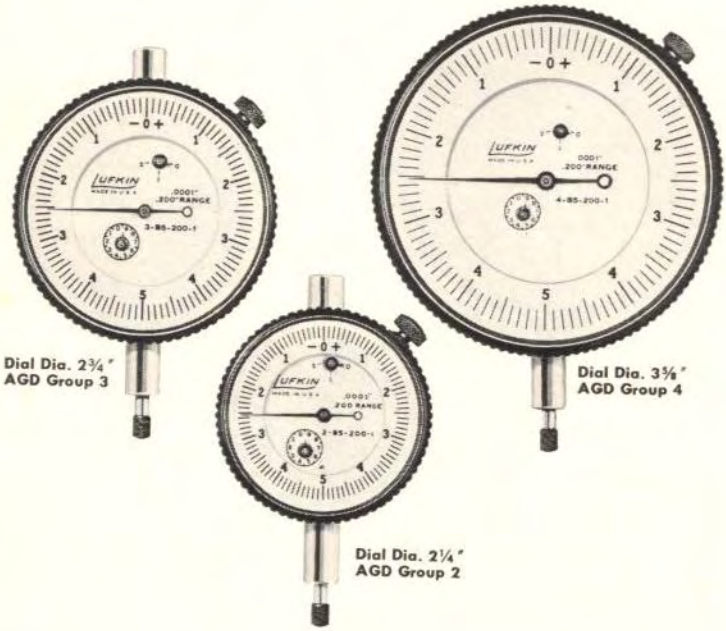
Packed one in a box.



FOR PRICES SEE PRICE LIST

# .0001 Dial Indicators

**Graduation .0001″ Range .200″**




## BALANCED DIALS

| Catalog No. Jeweled Shock Cushioned | Catalog No. Jeweled | Catalog No. Plain | Diameter Inches | Reading | Range Inches | Graduation Inches | Revolutions of Hand |
|---|---|---|---|---|---|---|---|
| SJ2-B5-200-1 | J2-B5-200-1 | 2-B5-200-1 | 2¼ | 0–5–0 | .200 | .0001 | 20 |
| SJ3-B5-200-1 | J3-B5-200-1 | 3-B5-200-1 | 2¾ | 0–5–0 | .200 | .0001 | 20 |
| SJ4-B5-200-1 | J4-B5-200-1 | 4-B5-200-1 | 3⅛ | 0–5–0 | .200 | .0001 | 20 |

## CONTINUOUS DIALS

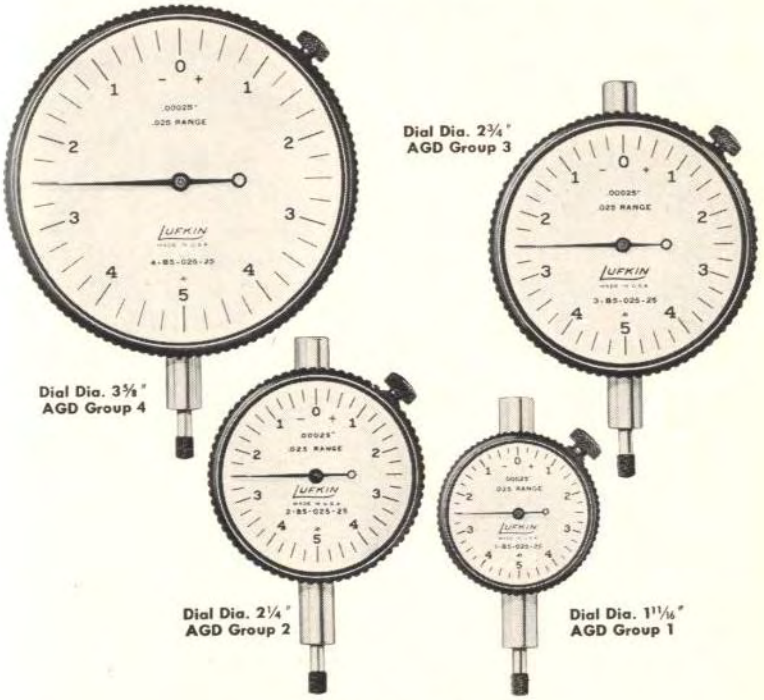
| Catalog No. Jeweled Shock Cushioned | Catalog No. Jeweled | Catalog No. Plain | Diameter Inches | Reading | Range Inches | Graduation Inches | Revolutions of Hand |
|---|---|---|---|---|---|---|---|
| SJ2-C10-200-1 | J2-C10-200-1 | 2-C10-200-1 | 2¼ | 0–10 | .200 | .0001 | 20 |
| SJ3-C10-200-1 | J3-C10-200-1 | 3-C10-200-1 | 2¾ | 0–10 | .200 | .0001 | 20 |
| SJ4-C10-200-1 | J4-C10-200-1 | 4-C10-200-1 | 3⅛ | 0–10 | .200 | .0001 | 20 |

Packed one in a box.

*FOR PRICES SEE PRICE LIST*

# .00025 Dial Indicators

**Graduation .00025″ Range .025″**




## BALANCED DIALS

| Catalog No. Jeweled Shock Cushioned | Catalog No. Jeweled | Catalog No. Plain | Diameter Inches | Reading | Range Inches | Graduation Inches | Revolutions of Hand |
|---|---|---|---|---|---|---|---|
| SJ2-B5-025-25 | J1-B5-025-25 | 1-B5-025-25 | 1 11/16 | 0–5–0 | .025 | .00025 | 2½ |
| | J2-B5-025-25 | 2-B5-025-25 | 2¼ | 0–5–0 | .025 | .00025 | 2½ |
| | J3-B5-025-25 | 3-B5-025-25 | 2¾ | 0–5–0 | .025 | .00025 | 2½ |
| | J4-B5-025-25 | 4-B5-025-25 | 3⅝ | 0–5–0 | .025 | .00025 | 2½ |

## CONTINUOUS DIALS

| Catalog No. Jeweled Shock Cushioned | Catalog No. Jeweled | Catalog No. Plain | Diameter Inches | Reading | Range Inches | Graduation Inches | Revolutions of Hand |
|---|---|---|---|---|---|---|---|
| SJ2-C10-025-25 | J1-C10-025-25 | 1-C10-025-25 | 1 11/16 | 0–10 | .025 | .00025 | 2½ |
| | J2-C10-025-25 | 2-C10-025-25 | 2¼ | 0–10 | .025 | .00025 | 2½ |
| | J3-C10-025-25 | 3-C10-025-25 | 2¾ | 0–10 | .025 | .00025 | 2½ |
| | J4-C10-025-25 | 4-C10-025-25 | 3⅝ | 0–10 | .025 | .00025 | 2½ |

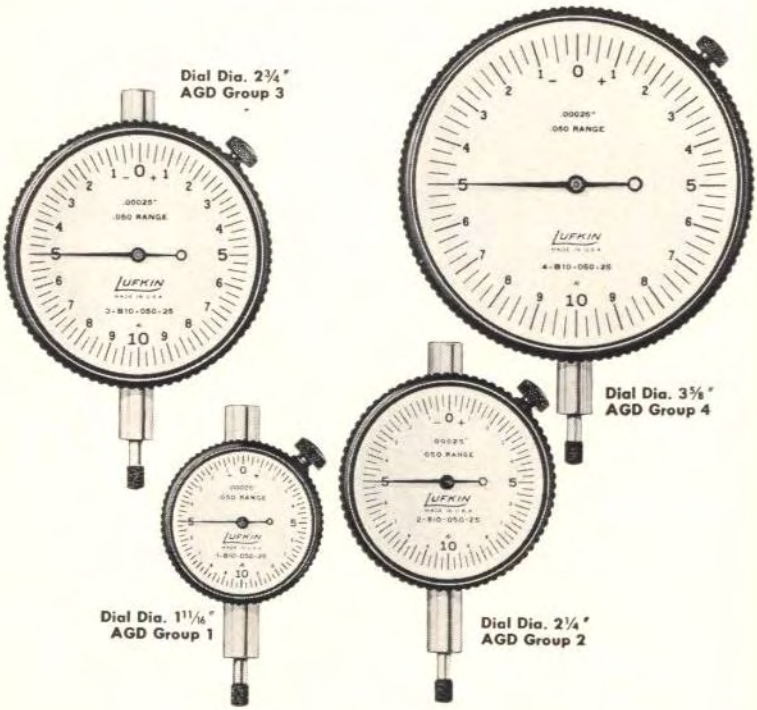
Packed one in a box.



FOR PRICES SEE PRICE LIST

# .00025 Dial Indicators

**Graduation .00025″ Range .050″**




## BALANCED DIALS

| Catalog No. Jeweled Shock Cushioned | Catalog No. Jeweled | Catalog No. Plain | Diameter Inches | Reading | Range Inches | Graduation Inches | Revolutions of Hand |
|---|---|---|---|---|---|---|---|
| SJ2-B10-050-25 | J1-B10-050-25 | 1-B10-050-25 | 1¹¹⁄₁₆ | 0–10–0 | .050 | .00025 | 2½ |
| | J2-B10-050-25 | 2-B10-050-25 | 2¼ | 0–10–0 | .050 | .00025 | 2½ |
| | J3-B10-050-25 | 3-B10-050-25 | 2¾ | 0–10–0 | .050 | .00025 | 2½ |
| | J4-B10-050-25 | 4-B10-050-25 | 3⅝ | 0–10–0 | .050 | .00025 | 2½ |

## CONTINUOUS DIALS

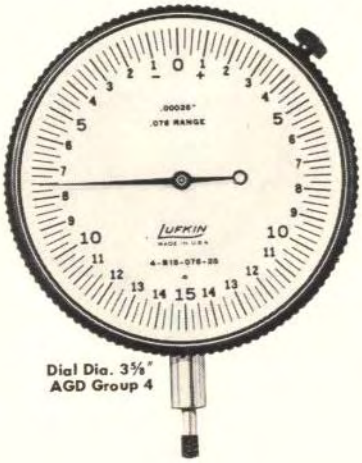
| Catalog No. Jeweled Shock Cushioned | Catalog No. Jeweled | Catalog No. Plain | Diameter Inches | Reading | Range Inches | Graduation Inches | Revolutions of Hand |
|---|---|---|---|---|---|---|---|
| SJ2-C20-050-25 | J1-C20-050-25 | 1-C20-050-25 | 1¹¹⁄₁₆ | 0–20 | .050 | .00025 | 2½ |
| | J2-C20-050-25 | 2-C20-050-25 | 2¼ | 0–20 | .050 | .00025 | 2½ |
| | J3-C20-050-25 | 3-C20-050-25 | 2¾ | 0–20 | .050 | .00025 | 2½ |
| | J4-C20-050-25 | 4-C20-050-25 | 3⅝ | 0–20 | .050 | .00025 | 2½ |

Packed one in a box.

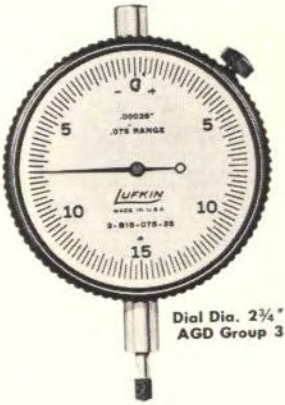
FOR PRICES SEE PRICE LIST

# .00025 Dial Indicators

**Graduation .00025″ Range .075″**




Dial Dia. 3⅝″
AGD Group 4




Dial Dia. 2¾″
AGD Group 3

## BALANCED DIALS

| Catalog No. Jeweled | Catalog No. Plain | Diameter Inches | Reading | Range Inches | Graduation Inches | Revolutions of Hand |
|---|---|---|---|---|---|---|
| J3-B15-075-25 | 3-B15-075-25 | 2¾ | 0–15–0 | .075 | .00025 | 2½ |
| J4-B15-075-25 | 4-B15-075-25 | 3⅝ | 0–15–0 | .075 | .00025 | 2½ |

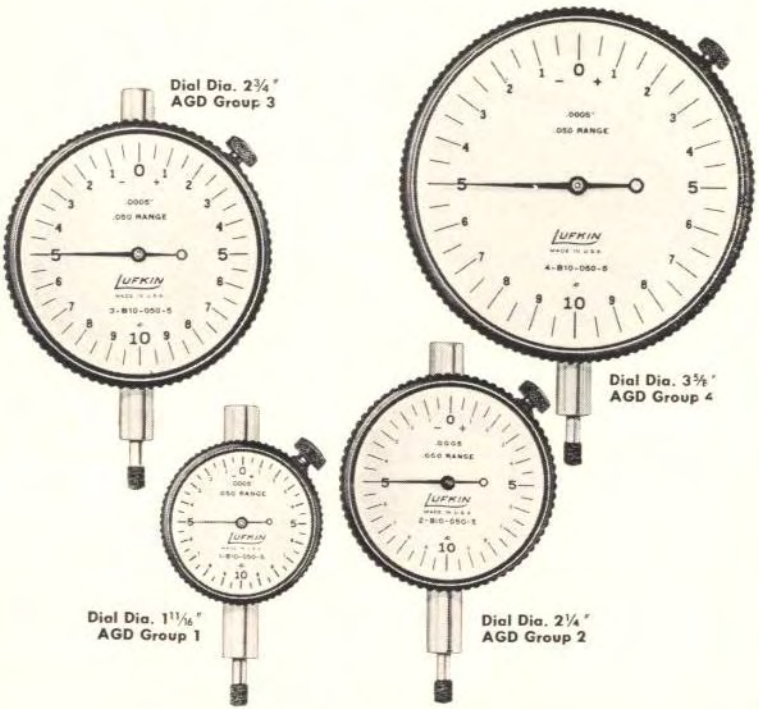
## CONTINUOUS DIALS

| Catalog No. Jeweled | Catalog No. Plain | Diameter Inches | Reading | Range Inches | Graduation Inches | Revolutions of Hand |
|---|---|---|---|---|---|---|
| J3-C30-075-25 | 3-C30-075-25 | 2¾ | 0–30 | .075 | .00025 | 2½ |
| J4-C30-075-25 | 4-C30-075-25 | 3⅝ | 0–30 | .075 | .00025 | 2½ |

Packed one in a box.

# .0005 Dial Indicators

**Graduation .0005″ Range .050″**




## BALANCED DIALS

| Catalog No. Jeweled Shock Cushioned | Catalog No. Jeweled | Catalog No. Plain | Diameter Inches | Reading | Range Inches | Graduation Inches | Revolutions of Hand |
|---|---|---|---|---|---|---|---|
| SJ2-B10-050-5 | J1-B10-050-5 | 1-B10-050-5 | 1¹¹⁄₁₆ | 0–10–0 | .050 | .0005 | 2½ |
| | J2-B10-050-5 | 2-B10-050-5 | 2¼ | 0–10–0 | .050 | .0005 | 2½ |
| | J3-B10-050-5 | 3-B10-050-5 | 2¾ | 0–10–0 | .050 | .0005 | 2½ |
| | J4-B10-050-5 | 4-B10-050-5 | 3⅝ | 0–10–0 | .050 | .0005 | 2½ |

## CONTINUOUS DIALS

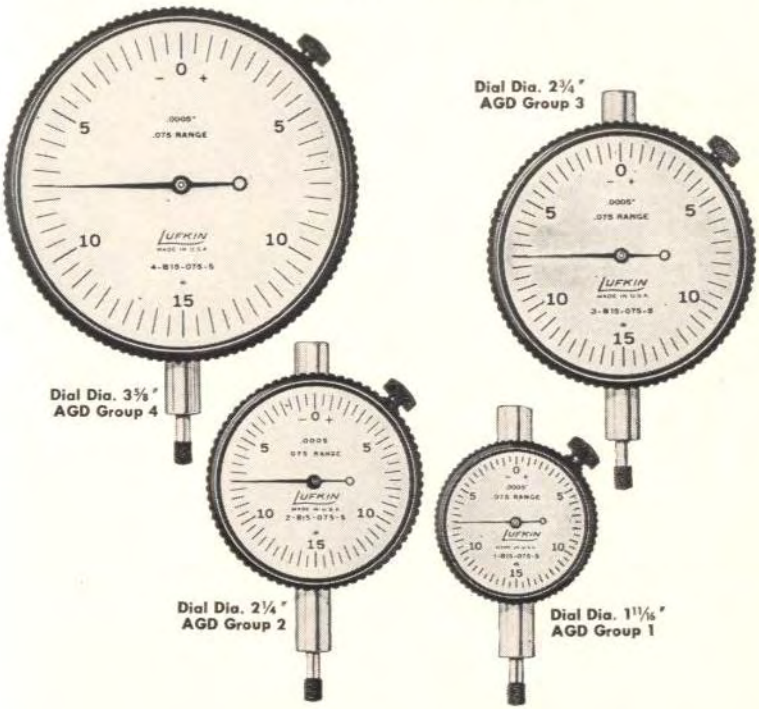
| Catalog No. Jeweled Shock Cushioned | Catalog No. Jeweled | Catalog No. Plain | Diameter Inches | Reading | Range Inches | Graduation Inches | Revolutions of Hand |
|---|---|---|---|---|---|---|---|
| SJ2-C20-050-5 | J1-C20-050-5 | 1-C20-050-5 | 1¹¹⁄₁₆ | 0–20 | .050 | .0005 | 2½ |
| | J2-C20-050-5 | 2-C20-050-5 | 2¼ | 0–20 | .050 | .0005 | 2½ |
| | J3-C20-050-5 | 3-C20-050-5 | 2¾ | 0–20 | .050 | .0005 | 2½ |
| | J4-C20-050-5 | 4-C20-050-5 | 3⅝ | 0–20 | .050 | .0005 | 2½ |

Packed one in a box.

*FOR PRICES SEE PRICE LIST*

# .0005 Dial Indicators

**Graduation .0005″ Range .075″**




## BALANCED DIALS

| Catalog No. Jeweled Shock Cushioned | Catalog No. Jeweled | Catalog No. Plain | Diameter Inches | Reading | Range Inches | Graduation Inches | Revolutions of Hand |
|---|---|---|---|---|---|---|---|
| | J1-B15-075-5 | 1-B15-075-5 | 1¹¹⁄₁₆ | 0–15–0 | .075 | .0005 | 2½ |
| SJ2-B15-075-5 | J2-B15-075-5 | 2-B15-075-5 | 2¼ | 0–15–0 | .075 | .0005 | 2½ |
| SJ3-B15-075-5 | J3-B15-075-5 | 3-B15-075-5 | 2¾ | 0–15–0 | .075 | .0005 | 2½ |
| SJ4-B15-075-5 | J4-B15-075-5 | 4-B15-075-5 | 3⅝ | 0–15–0 | .075 | .0005 | 2½ |

## CONTINUOUS DIALS

| Catalog No. Jeweled Shock Cushioned | Catalog No. Jeweled | Catalog No. Plain | Diameter Inches | Reading | Range Inches | Graduation Inches | Revolutions of Hand |
|---|---|---|---|---|---|---|---|
| | J1-C30-075-5 | 1-C30-075-5 | 1¹¹⁄₁₆ | 0–30 | .075 | .0005 | 2½ |
| SJ2-C30-075-5 | J2-C30-075-5 | 2-C30-075-5 | 2¼ | 0–30 | .075 | .0005 | 2½ |
| SJ3-C30-075-5 | J3-C30-075-5 | 3-C30-075-5 | 2¾ | 0–30 | .075 | .0005 | 2½ |
| SJ4-C30-075-5 | J4-C30-075-5 | 4-C30-075-5 | 3⅝ | 0–30 | .075 | .0005 | 2½ |

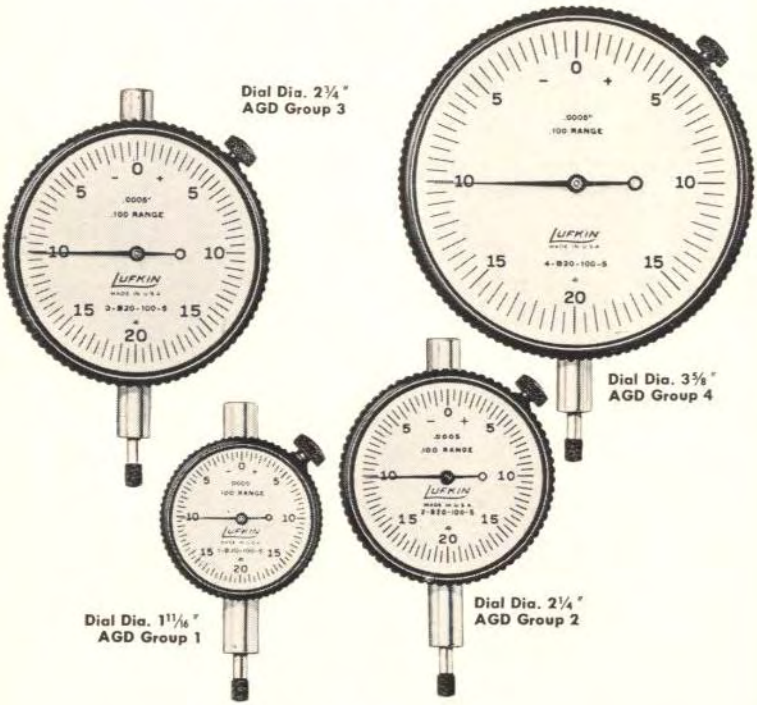


Packed one in a box.

FOR PRICES SEE PRICE LIST

# .0005 Dial Indicators

**Graduation .0005″ Range .100″**




## BALANCED DIALS

| Catalog No. Jeweled Shock Cushioned | Catalog No. Jeweled | Catalog No. Plain | Diameter Inches | Reading | Range Inches | Graduation Inches | Revolutions of Hand |
|---|---|---|---|---|---|---|---|
| | J1-B20-100-5 | 1-B20-100-5 | 1 11/16 | 0–20–0 | .100 | .0005 | 2½ |
| SJ2-B20-100-5 | J2-B20-100-5 | 2-B20-100-5 | 2¼ | 0–20–0 | .100 | .0005 | 2½ |
| SJ3-B20-100-5 | J3-B20-100-5 | 3-B20-100-5 | 2¾ | 0–20–0 | .100 | .0005 | 2½ |
| SJ4-B20-100-5 | J4-B20-100-5 | 4-B20-100-5 | 3⅜ | 0–20–0 | .100 | .0005 | 2½ |

## CONTINUOUS DIALS

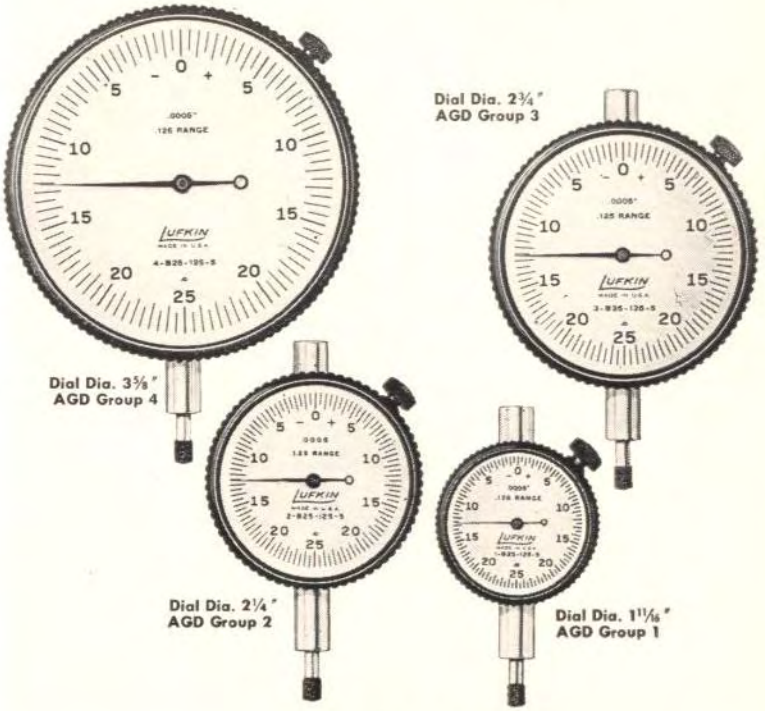
| Catalog No. Jeweled Shock Cushioned | Catalog No. Jeweled | Catalog No. Plain | Diameter Inches | Reading | Range Inches | Graduation Inches | Revolutions of Hand |
|---|---|---|---|---|---|---|---|
| | J1-C40-100-5 | 1-C40-100-5 | 1 11/16 | 0–40 | .100 | .0005 | 2½ |
| SJ2-C40-100-5 | J2-C40-100-5 | 2-C40-100-5 | 2¼ | 0–40 | .100 | .0005 | 2½ |
| SJ3-C40-100-5 | J3-C40-100-5 | 3-C40-100-5 | 2¾ | 0–40 | .100 | .0005 | 2½ |
| SJ4-C40-100-5 | J4-C40-100-5 | 4-C40-100-5 | 3⅜ | 0–40 | .100 | .0005 | 2½ |

Packed one in a box.

*FOR PRICES SEE PRICE LIST*

# .0005 Dial Indicators

**Graduation .0005″ Range .125″**




## BALANCED DIALS

| Catalog No. Jeweled Shock Cushioned | Catalog No. Jeweled | Catalog No. Plain | Diameter Inches | Reading | Range Inches | Graduation Inches | Revolutions of Hand |
|---|---|---|---|---|---|---|---|
| | J1-B25-125-5 | 1-B25-125-5 | 1¹¹⁄₁₆ | 0–25–0 | .125 | .0005 | 2½ |
| SJ2-B25-125-5 | J2-B25-125-5 | 2-B25-125-5 | 2¼ | 0–25–0 | .125 | .0005 | 2½ |
| SJ3-B25-125-5 | J3-B25-125-5 | 3-B25-125-5 | 2¾ | 0–25–0 | .125 | .0005 | 2½ |
| SJ4-B25-125-5 | J4-B25-125-5 | 4-B25-125-5 | 3⅝ | 0–25–0 | .125 | .0005 | 2½ |

## CONTINUOUS DIALS

| Catalog No. Jeweled Shock Cushioned | Catalog No. Jeweled | Catalog No. Plain | Diameter Inches | Reading | Range Inches | Graduation Inches | Revolutions of Hand |
|---|---|---|---|---|---|---|---|
| | J1-C50-125-5 | 1-C50-125-5 | 1¹¹⁄₁₆ | 0–50 | .125 | .0005 | 2½ |
| SJ2-C50-125-5 | J2-C50-125-5 | 2-C50-125-5 | 2¼ | 0–50 | .125 | .0005 | 2½ |
| SJ3-C50-125-5 | J3-C50-125-5 | 3-C50-125-5 | 2¾ | 0–50 | .125 | .0005 | 2½ |
| SJ4-C50-125-5 | J4-C50-125-5 | 4-C50-125-5 | 3⅝ | 0–50 | .125 | .0005 | 2½ |

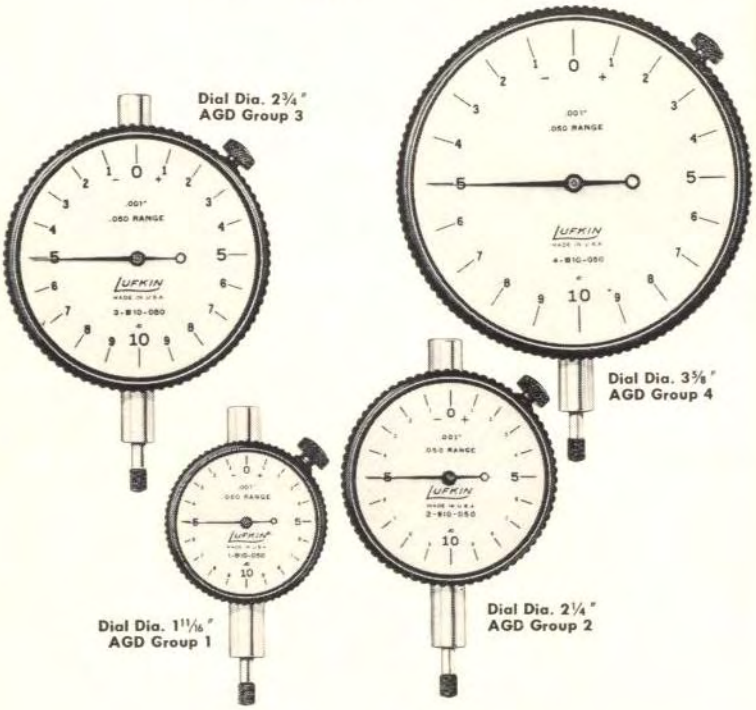


Packed one in a box.

**FOR PRICES SEE PRICE LIST**

# .001 Dial Indicators

**Graduation .001″ Range .050″**




## BALANCED DIALS

| Catalog No. Jeweled Shock Cushioned | Catalog No. Jeweled | Catalog No. Plain | Diameter Inches | Reading | Range Inches | Graduation Inches | Revolutions of Hand |
|---|---|---|---|---|---|---|---|
| SJ2-B10-050 | J1-B10-050 | 1-B10-050 | 1¹¹⁄₁₆ | 0–10–0 | .050 | .001 | 2½ |
| | J2-B10-050 | 2-B10-050 | 2¼ | 0–10–0 | .050 | .001 | 2½ |
| | J3-B10-050 | 3-B10-050 | 2¾ | 0–10–0 | .050 | .001 | 2½ |
| | J4-B10-050 | 4-B10-050 | 3⅝ | 0–10–0 | .050 | .001 | 2½ |

## CONTINUOUS DIALS

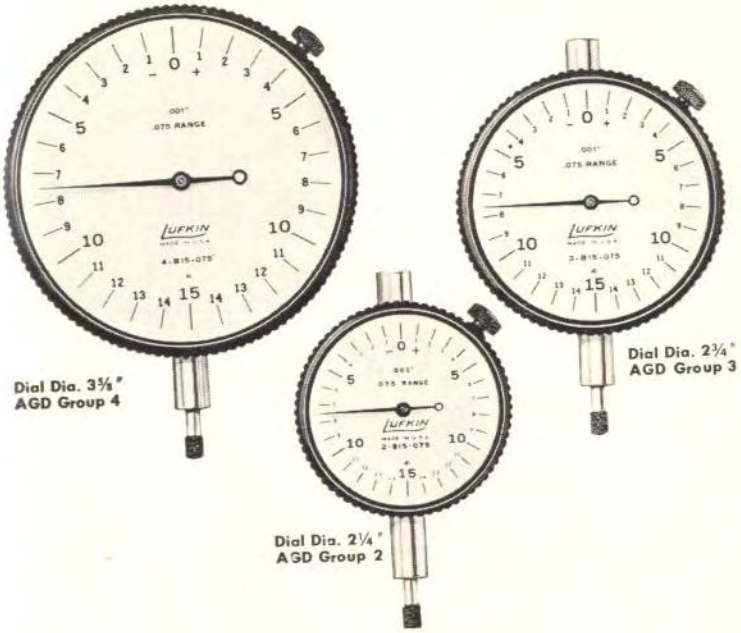
| Catalog No. Jeweled Shock Cushioned | Catalog No. Jeweled | Catalog No. Plain | Diameter Inches | Reading | Range Inches | Graduation Inches | Revolutions of Hand |
|---|---|---|---|---|---|---|---|
| SJ2-C20-050 | J1-C20-050 | 1-C20-050 | 1¹¹⁄₁₆ | 0–20 | .050 | .001 | 2½ |
| | J2-C20-050 | 2-C20-050 | 2¼ | 0–20 | .050] | .001 | 2½ |
| | J3-C20-050 | 3-C20-050 | 2¾ | 0–20 | .050 | .001 | 2½ |
| | J4-C20-050 | 4-C20-050 | 3⅝ | 0–20 | .050 | .001 | 2½ |

Packed one in a box.

*FOR PRICES SEE PRICE LIST*

# .001 Dial Indicators

**Graduation .001″ Range .075″**




## BALANCED DIALS

| Catalog No. Jeweled | Catalog No. Plain | Diameter Inches | Reading | Range Inches | Graduation Inches | Revolutions of Hand |
|---|---|---|---|---|---|---|
| J2-B15-075 | 2-B15-075 | 2¼ | 0–15–0 | .075 | .001 | 2½ |
| J3-B15-075 | 3-B15-075 | 2¾ | 0–15–0 | .075 | .001 | 2½ |
| J4-B15-075 | 4-B15-075 | 3⅜ | 0–15–0 | .075 | .001 | 2½ |

## CONTINUOUS DIALS

| Catalog No. Jeweled | Catalog No. Plain | Diameter Inches | Reading | Range Inches | Graduation Inches | Revolutions of Hand |
|---|---|---|---|---|---|---|
| J2-C30-075 | 2-C30-075 | 2¼ | 0–30 | .075 | .001 | 2½ |
| J3-C30-075 | 3-C30-075 | 2¾ | 0–30 | .075 | .001 | 2½ |
| J4-C30-075 | 4-C30-075 | 3⅜ | 0–30 | .075 | .001 | 2½ |

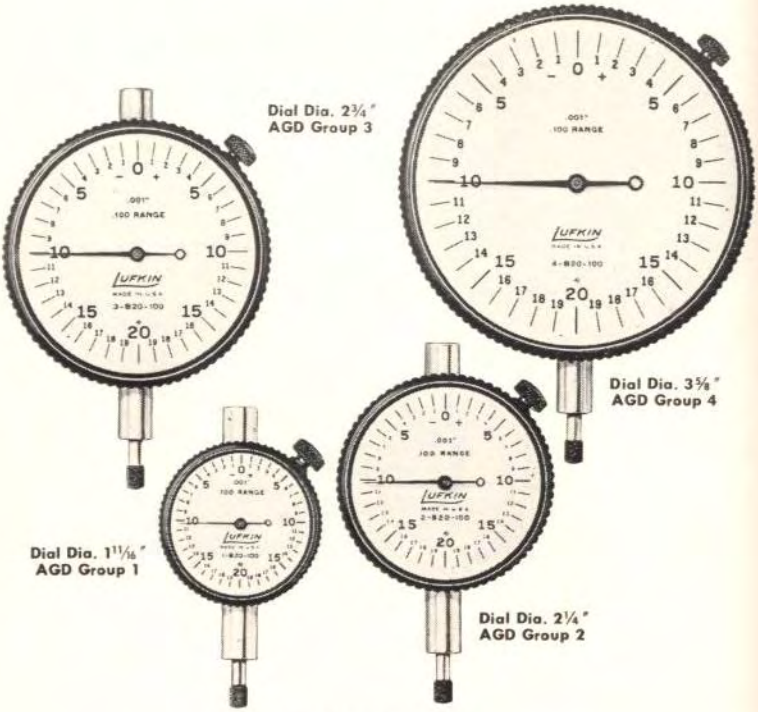
Packed one in a box.



FOR PRICES SEE PRICE LIST

# .001 Dial Indicators

**Graduation .001″ Range .100″**




## BALANCED DIALS

| Catalog No. Jeweled Shock Cushioned | Catalog No. Jeweled | Catalog No. Plain | Diameter Inches | Reading | Range Inches | Graduation Inches | Revolutions of Hand |
|---|---|---|---|---|---|---|---|
| SJ2-B20-100 | J1-B20-100 | 1-B20-100 | 1¹¹⁄₁₆ | 0–20–0 | .100 | .001 | 2½ |
| | J2-B20-100 | 2-B20-100 | 2¼ | 0–20–0 | .100 | .001 | 2½ |
| | J3-B20-100 | 3-B20-100 | 2¾ | 0–20–0 | .100 | .001 | 2½ |
| | J4-B20-100 | 4-B20-100 | 3⅝ | 0–20–0 | .100 | .001 | 2½ |

## CONTINUOUS DIALS

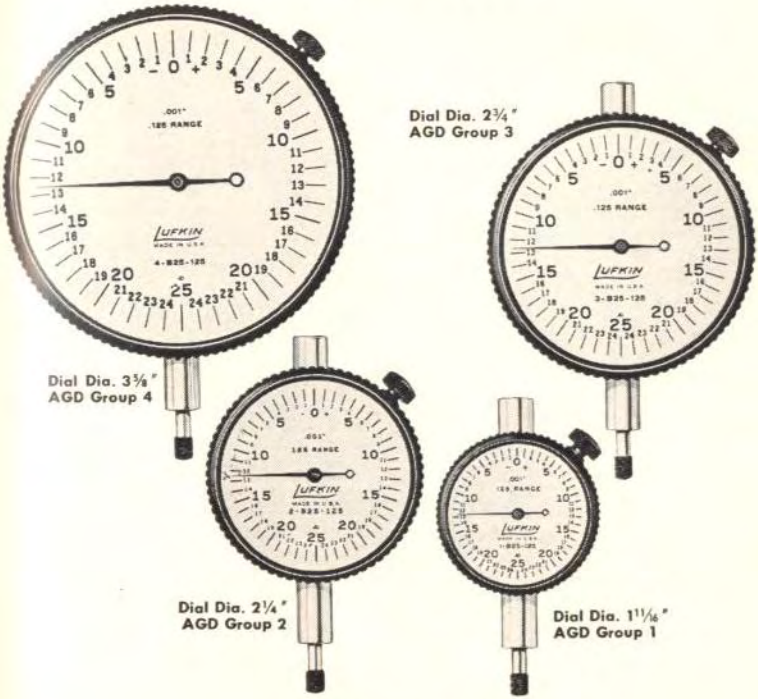
| Catalog No. Jeweled Shock Cushioned | Catalog No. Jeweled | Catalog No. Plain | Diameter Inches | Reading | Range Inches | Graduation Inches | Revolutions of Hand |
|---|---|---|---|---|---|---|---|
| SJ2-C40-100 | J1-C40-100 | 1-C40-100 | 1¹¹⁄₁₆ | 0–40 | .100 | .001 | 2½ |
| | J2-C40-100 | 2-C40-100 | 2¼ | 0–40 | .100 | .001 | 2½ |
| | J3-C40-100 | 3-C40-100 | 2¾ | 0–40 | .100 | .001 | 2½ |
| | J4-C40-100 | 4-C40-100 | 3⅝ | 0–40 | .100 | .001 | 2½ |

Packed one in a box.

*FOR PRICES SEE PRICE LIST*

# .001 Dial Indicators

**Graduation .001″ Range .125″**




## BALANCED DIALS

| Catalog No. Jeweled Shock Cushioned | Catalog No. Jeweled | Catalog No. Plain | Diameter Inches | Reading | Range Inches | Graduation Inches | Revolutions of Hand |
|---|---|---|---|---|---|---|---|
| | J1-B25-125 | 1-B25-125 | 1 11/16 | 0–25–0 | .125 | .001 | 2½ |
| SJ2-B25-125 | J2-B25-125 | 2-B25-125 | 2¼ | 0–25–0 | .125 | .001 | 2½ |
| SJ3-B25-125 | J3-B25-125 | 3-B25-125 | 2¾ | 0–25–0 | .125 | .001 | 2½ |
| SJ4-B25-125 | J4-B25-125 | 4-B25-125 | 3⅜ | 0–25–0 | .125 | .001 | 2½ |

## CONTINUOUS DIALS

| Catalog No. Jeweled Shock Cushioned | Catalog No. Jeweled | Catalog No. Plain | Diameter Inches | Reading | Range Inches | Graduation Inches | Revolutions of Hand |
|---|---|---|---|---|---|---|---|
| | J1-C50-125 | 1-C50-125 | 1 11/16 | 0–50 | .125 | .001 | 2½ |
| SJ2-C50-125 | J2-C50-125 | 2-C50-125 | 2¼ | 0–50 | .125 | .001 | 2½ |
| SJ3-C50-125 | J3-C50-125 | 3-C50-125 | 2¾ | 0–50 | .125 | .001 | 2½ |
| SJ4-C50-125 | J4-C50-125 | 4-C50-125 | 3⅜ | 0–50 | .125 | .001 | 2½ |

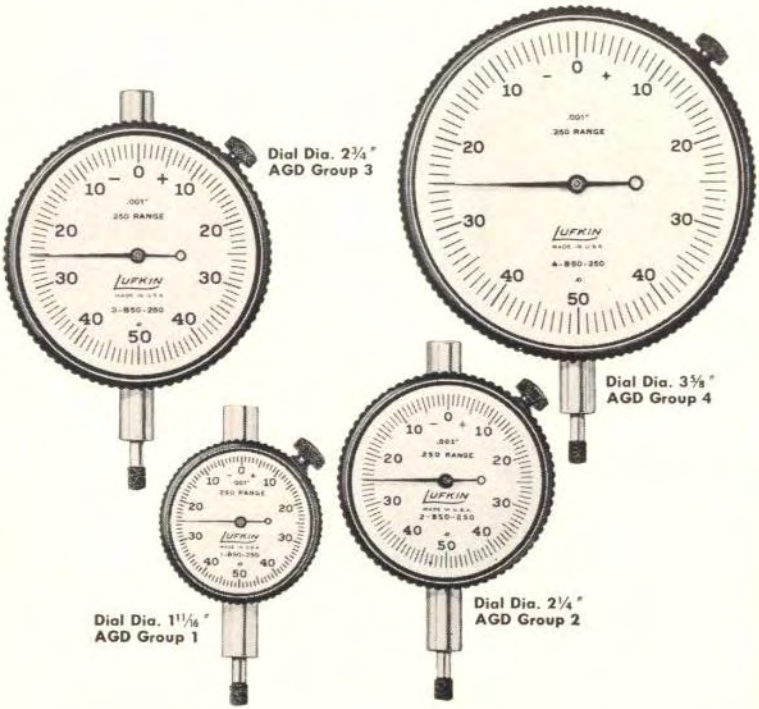
Packed in a box.



*FOR PRICES SEE PRICE LIST*

# .001 Dial Indicators

**Graduation .001″ Range .250″**




## BALANCED DIALS

| Catalog No. Jeweled Shock Cushioned | Catalog No. Jeweled | Catalog No. Plain | Diameter Inches | Reading | Range Inches | Graduation Inches | Revolutions of Hand |
|---|---|---|---|---|---|---|---|
| | J1-B50-250 | 1-B50-250 | 1¹¹⁄₁₆ | 0–50–0 | .250 | .001 | 2½ |
| SJ2-B50-250 | J2-B50-250 | 2-B50-250 | 2¼ | 0–50–0 | .250 | .001 | 2½ |
| SJ3-B50-250 | J3-B50-250 | 3-B50-250 | 2¾ | 0–50–0 | .250 | .001 | 2½ |
| SJ4-B50-250 | J4-B50-250 | 4-B50-250 | 3⅜ | 0–50–0 | .250 | .001 | 2½ |

## CONTINUOUS DIALS

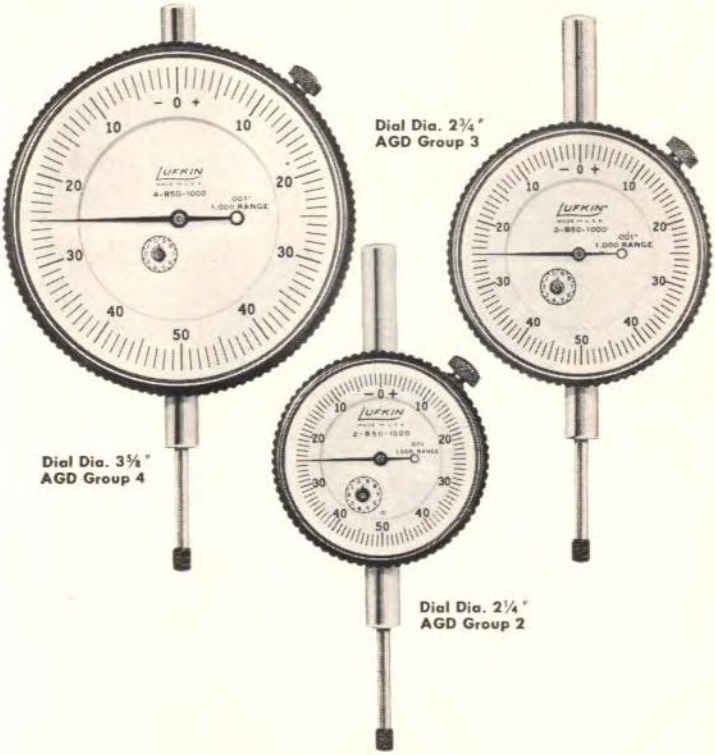
| Catalog No. Jeweled Shock Cushioned | Catalog No. Jeweled | Catalog No. Plain | Diameter Inches | Reading | Range Inches | Graduation Inches | Revolutions of Hand |
|---|---|---|---|---|---|---|---|
| | J1-C100-250 | 1-C100-250 | 1¹¹⁄₁₆ | 0–100 | .250 | .001 | 2½ |
| SJ2-C100-250 | J2-C100-250 | 2-C100-250 | 2¼ | 0–100 | .250 | .001 | 2½ |
| SJ3-C100-250 | J3-C100-250 | 3-C100-250 | 2¾ | 0–100 | .250 | .001 | 2½ |
| SJ4-C100-250 | J4-C100-250 | 4-C100-250 | 3⅜ | 0–100 | .250 | .001 | 2½ |

Packed one in a box.

*FOR PRICES SEE PRICE LIST*

# .001 Dial Indicators

**Graduation .001″ Range 1.000″**




## BALANCED DIALS

| Catalog No. Jeweled Shock Cushioned | Catalog No. Jeweled | Catalog No. Plain | Diameter Inches | Reading | Range Inches | Graduation Inches | Revolutions of Hand |
|---|---|---|---|---|---|---|---|
| SJ2-B50-1000 | J2-B50-1000 | 2-B50-1000 | 2¼ | 0–50–0 | 1.000 | .001 | 10 |
| SJ3-B50-1000 | J3-B50-1000 | 3-B50-1000 | 2¾ | 0–50–0 | 1.000 | .001 | 10 |
| SJ4-B50-1000 | J4-B50-1000 | 4-B50-1000 | 3⅝ | 0–50–0 | 1.000 | .001 | 10 |

## CONTINUOUS DIALS

| Catalog No. Jeweled Shock Cushioned | Catalog No. Jeweled | Catalog No. Plain | Diameter Inches | Reading | Range Inches | Graduation Inches | Revolutions of Hand |
|---|---|---|---|---|---|---|---|
| SJ2-C100-1000 | J2-C100-1000 | 2-C100-1000 | 2¼ | 0–100 | 1.000 | .001 | 10 |
| SJ3-C100-1000 | J3-C100-1000 | 3-C100-1000 | 2¾ | 0–100 | 1.000 | .001 | 10 |
| SJ4-C100-1000 | J4-C100-1000 | 4-C100-1000 | 3⅝ | 0–100 | 1.000 | .001 | 10 |

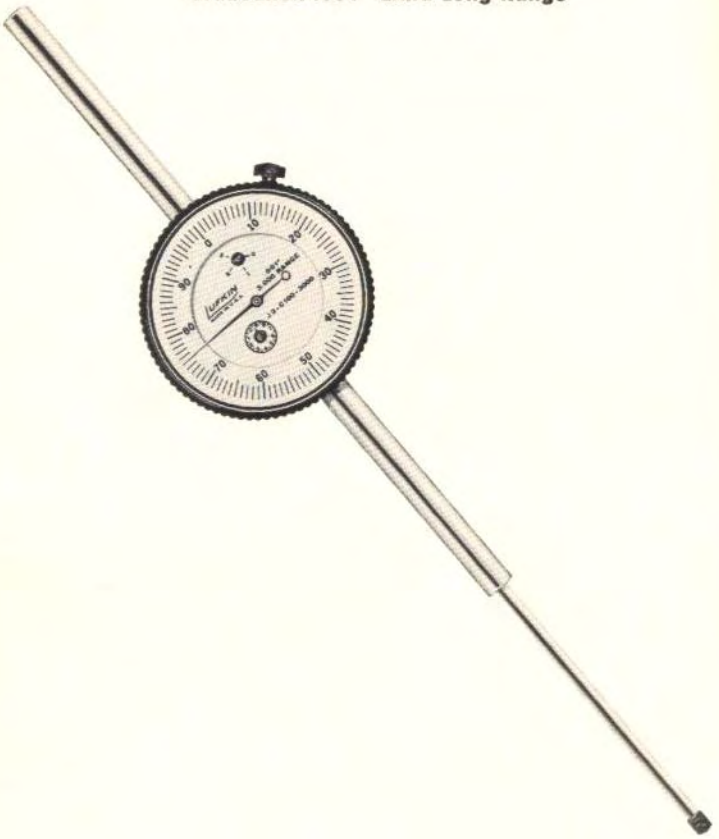
Packed one in a box.



FOR PRICES SEE PRICE LIST

# Dial Indicators

## Graduation .001″ Extra Long Range



| Catalog No. Jeweled | Diameter Inches | Reading | Range Inches | Graduation Inches |
|---|---|---|---|---|
| J2–C100–2000 | 2¼ | 0–100 | 2 | .001 |
| J3–C100–2000 | 2¾ | 0–100 | 2 | .001 |
| J3–C100–3000 | 2¾ | 0–100 | 3 | .001 |
| J3–C100–4000 | 2¾ | 0–100 | 4 | .001 |
| J3–C100–5000 | 2¾ | 0–100 | 5 | .001 |
| J4–C100–2000 | 3⅝ | 0–100 | 2 | .001 |
| J4–C100–3000 | 3⅝ | 0–100 | 3 | .001 |
| J4–C100–4000 | 3⅝ | 0–100 | 4 | .001 |
| J4–C100–5000 | 3⅝ | 0–100 | 5 | .001 |

FOR PRICES SEE PRICE LIST

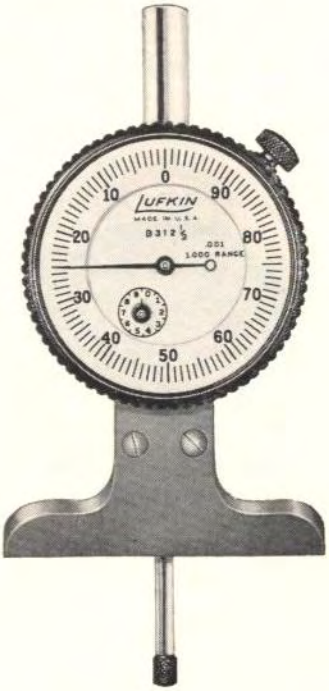
# Dial Indicators

## Threaded Stems


**Lufkin Dial Indicator with Threaded Stem**

Available in all graduations and dial faces, the $\frac{3}{8}$–24 threaded stem permits using indicator as permanent attachment on fixtures and machines. Threaded stem overcomes binding of indicator spindle by old clamping methods.

# Dial Depth Gages




**No. D312½ Dial Depth Gage**

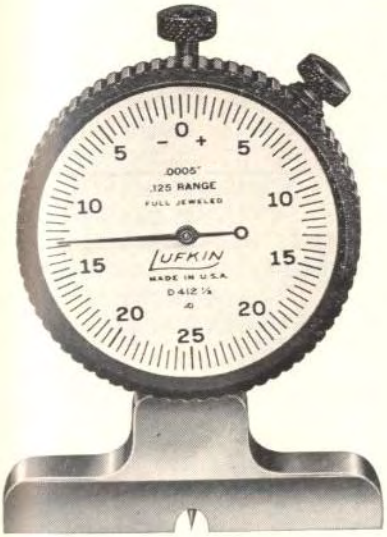
The Lufkin Dial Depth Gage is an ideal tool for checking depths of holes, slots, recesses, etc. When the rod is inserted in a hole and the base is positioned, the depth is immediately registered on the dial in .001″. Base is hardened and ground and is 2½″ long, ½″ wide. Indicator has travel 0 to 1″. 2 rods are furnished to increase range to 3″. Packed in sturdy box.

No. **D312½** Dial Depth Gage

*FOR PRICES SEE PRICE LIST*

# Dial Indicator Depth Gage

## WITH KNIFE BASE




**Precision Built for Long Life**

**Full Jeweled**

**Solid Brass Forged Case**

**No Die Casting Used on any Movement Parts**

**Stainless Steel Pivots, Gears, Rack and Pinions—Rust and Wear Resistant**

A precision built Dial Indicator Depth Gage for measuring depths of small holes, recesses, slots, etc. with extreme accuracy. Has a knife edge base, with center cut out to permit an unobstructed view of the point, and for exact positioning of needle point. Base and point are hardened and ground. Base is attached to indicator by a flush type hollow set screw and is easily removed with a wrench furnished.

Depths up to .125 inches are registered on the dial in .0005 inches, with plus or minus readings as the dial is adjustable to zero. Indicator is full jeweled.

| Number | Range | Graduated | Dial Reading | Base Length |
|---|---|---|---|---|
| D412½ | 0 to .125 | .0005 | 0-25-0 | 2½" |

Packed: 1 each in a Wooden Box



FOR PRICES SEE PRICE LIST

# Dial Indicator Specifications

| GRADUATION RANGE (inches) | | | | CATALOG NUMBER | | | |
|---|---|---|---|---|---|---|---|
| Value of each Graduation Inches | Dial Reading | One Revolution of Hand Inches | Total Range Inches | Jeweled AGD Group 1 Dia. 1 11/16" | Plain AGD Group 1 Dia. 1 11/16" | Jeweled AGD Group 2 Dia. 2 1/4" | Plain AGD Group 2 Dia. 2 1/4" |
| | 0–4–0 | .008 | .020 | | | J2-B4-020-1 | 2-B4-020-1 |
| | 0–8 | .008 | .020 | | | J2-C8-020-1 | 2-C8-020-1 |
| .0001 | 0–5–0 | .010 | .025 | J1-B5-025-1 | 1-B5-025-1 | J2-B5-025-1 | 2-B5-025-1 |
| | 0–10 | .010 | .025 | J1-C10-025-1 | 1-C10-025-1 | J2-C10-025-1 | 2-C10-025-1 |
| | 0–5–0 | .010 | .200 | | | *J2-B5-200-1 | *2-B5-200-1 |
| | 0–10 | .010 | .200 | | | *J2-C10-200-1 | *2-C10-200-1 |
| | 0–5–0 | .010 | .025 | J1-B5-025-25 | 1-B5-025-25 | J2-B5-025-25 | 2-B5-025-25 |
| | 0–10 | .010 | .025 | J1-C10-025-25 | 1-C10-025-25 | J2-C10-025-25 | 2-C10-025-25 |
| .00025 | 0–10–0 | .020 | .050 | J1-B10-050-25 | 1-B10-050-25 | J2-B10-050-25 | 2-B10-050-25 |
| | 0–20 | .020 | .050 | J1-C20-050-25 | 1-C20-050-25 | J2-C20-050-25 | 2-C20-050-25 |
| | 0–15–0 | .030 | .075 | | | | |
| | 0–30 | .030 | .075 | | | | |
| | 0–10–0 | .020 | .050 | J1-B10-050-5 | 1-B10-050-5 | J2-B10-050-5 | 2-B10-050-5 |
| | 0–20 | .020 | .050 | J1-C20-050-5 | 1-C20-050-5 | J2-C20-050-5 | 2-C20-050-5 |
| | 0–15–0 | .030 | .075 | J1-B15-075-5 | 1-B15-075-5 | J2-B15-075-5 | 2-B15-075-5 |
| .0005 | 0–30 | .030 | .075 | J1-C30-075-5 | 1-C30-075-5 | J2-C30-075-5 | 2-C30-075-5 |
| | 0–20–0 | .040 | .100 | J1-B20-100-5 | 1-B20-100-5 | J2-B20-100-5 | 2-B20-100-5 |
| | 0–40 | .040 | .100 | J1-C40-100-5 | 1-C40-100-5 | J2-C40-100-5 | 2-C40-100-5 |
| | 0–25–0 | .050 | .125 | J1-B25-125-5 | 1-B25-125-5 | J2-B25-125-5 | 2-B25-125-5 |
| | 0–50 | .050 | .125 | J1-C50-125-5 | 1-C50-125-5 | J2-C50-125-5 | 2-C50-125-5 |
| | 0–10–0 | .020 | .050 | J1-B10-050 | 1-B10-050 | J2-B10-050 | 2-B10-050 |
| | 0–20 | .020 | .050 | J1-C20-050 | 1-C20-050 | J2-C20-050 | 2-C20-050 |
| | 0–15–0 | .030 | .075 | | | J2-B15-075 | 2-B15-075 |
| | 0–30 | .030 | .075 | | | J2-C30-075 | 2-C30-075 |
| | 0–20–0 | .040 | .100 | J1-B20-100 | 1-B20-100 | J2-B20-100 | 2-B20-100 |
| .001 | 0–40 | .040 | .100 | J1-C40-100 | 1-C40-100 | J2-C40-100 | 2-C40-100 |
| | 0–25–0 | .050 | .125 | J1-B25-125 | 1-B25-125 | J2-B25-125 | 2-B25-125 |
| | 0–50 | .050 | .125 | J1-C50-125 | 1-C50-125 | J2-C50-125 | 2-C50-125 |
| | 0–50–0 | .100 | .250 | J1-B50-250 | 1-B50-250 | J2-B50-250 | 2-B50-250 |
| | 0–100 | .100 | .250 | J1-C100-250 | 1-C100-250 | J2-C100-250 | 2-C100-250 |
| | 0–50–0 | .100 | 1.000 | | | *J2-B50-1000 | *2-B50-1000 |
| | 0–100 | .100 | 1.000 | | | *J2-C100-1000 | *2-C100-1000 |

*Conforms to A.G.D. Specifications Except for Range

# Dial Indicator Specifications

## ENGLISH GRADUATIONS

| Jeweled AGD Group 3 Dia. 2¾" | Plain AGD Group 3 Dia. 2¾" | Jeweled AGD Group 4 Dia. 3⅝" | Plain AGD Group 4 Dia. 3⅝" | Shock Cushioned Jeweled AGD Group 2 Dia. 2¼" | Shock Cushioned Jeweled AGD Group 3 Dia. 2¾" | Shock Cushioned Jeweled AGD Group 4 Dia. 3⅝" |
|---|---|---|---|---|---|---|
| J3-B4-020-1 | 3-B4-020-1 | J4-B4-020-1 | 4-B4-020-1 | SJ2-B4-020-1 | | |
| J3-C8-020-1 | 3-C8-020-1 | J4-C8-020-1 | 4-C8-020-1 | SJ2-C8-020-1 | | |
| J3-B5-025-1 | 3-B5-025-1 | J4-B5-025-1 | 4-B5-025-1 | SJ2-B5-025-1 | SJ3-B5-025-1 | SJ4-B5-025-1 |
| J3-C10-025-1 | 3-C10-025-1 | J4-C10-025-1 | 4-C10-025-1 | SJ2-C10-025-1 | SJ3-C10-025-1 | SJ4-C10-025-1 |
| *J3-B5-200-1 | *3-B5-200-1 | *J4-B5-200-1 | *4-B5-200-1 | *SJ2-B5-200-1 | *SJ3-B5-200-1 | *SJ4-B5-200-1 |
| *J3-C10-200-1 | *3-C10-200-1 | *J4-C10-200-1 | *4-C10-200-1 | *SJ2-C10-200-1 | *SJ3-C10-200-1 | *SJ4-C10-200-1 |
| J3-B5-025-25 | 3-B5-025-25 | J4-B5-025-25 | 4-B5-025-25 | SJ2-B5-025-25 | | |
| J3-C10-025-25 | 3-C10-025-25 | J4-C10-025-25 | 4-C10-025-25 | SJ2-C10-025-25 | | |
| J3-B10-050-25 | 3-B10-050-25 | J4-B10-050-25 | 4-B10-050-25 | SJ2-B10-050-25 | | |
| J3-C20-050-25 | 3-C20-050-25 | J4-C20-050-25 | 4-C20-050-25 | SJ2-C20-050-25 | | |
| J3-B15-075-25 | 3-B15-075-25 | J4-B15-075-25 | 4-B15-075-25 | | | |
| J3-C30-075-25 | 3-C30-075-25 | J4-C30-075-25 | 4-C30-075-25 | | | |
| J3-B10-050-5 | 3-B10-050-5 | J4-B10-050-5 | 4-B10-050-5 | SJ2-B10-050-5 | | |
| J3-C20-050-5 | 3-C20-050-5 | J4-C20-050-5 | 4-C20-050-5 | SJ2-C20-050-5 | | |
| J3-B15-075-5 | 3-B15-075-5 | J4-B15-075-5 | 4-B15-075-5 | SJ2-B15-075-5 | SJ3-B15-075-5 | SJ4-B15-075-5 |
| J3-C30-075-5 | 3-C30-075-5 | J4-C30-075-5 | 4-C30-075-5 | SJ2-C30-075-5 | SJ3-C30-075-5 | SJ4-C30-075-5 |
| J3-B20-100-5 | 3-B20-100-5 | J4-B20-100-5 | 4-B20-100-5 | SJ2-B20-100-5 | SJ3-B20-100-5 | SJ4-B20-100-5 |
| J3-C40-100-5 | 3-C40-100-5 | J4-C40-100-5 | 4-C40-100-5 | SJ2-C40-100-5 | SJ3-C40-100-5 | SJ4-C40-100-5 |
| J3-B25-125-5 | 3-B25-125-5 | J4-B25-125-5 | 4-B25-125-5 | SJ2-B25-125-5 | SJ3-B25-125-5 | SJ4-B25-100-5 |
| J3-C50-125-5 | 3-C50-125-5 | J4-C50-125-5 | 4-C50-125-5 | SJ2-C50-125-5 | SJ3-C50-125-5 | SJ4-C50-125-5 |
| J3-B10-050 | 3-B10-050 | J4-B10-050 | 4-B10-050 | SJ2-B10-050 | | |
| J3-C20-050 | 3-C20-050 | J4-C20-050 | 4-C20-050 | SJ2-C20-050 | | |
| J3-B15-075 | 3-B15-075 | J4-B15-075 | 4-B15-075 | | | |
| J3-C30-075 | 3-C30-075 | J4-C30-075 | 4-C30-075 | | | |
| J3-B20-100 | 3-B20-100 | J4-B20-100 | 4-B20-100 | SJ2-B20-100 | | |
| J3-C40-100 | 3-C40-100 | J4-C40-100 | 4-C40-100 | SJ2-C40-100 | | |
| J3-B25-125 | 3-B25-125 | J4-B25-125 | 4-B25-125 | SJ2-B25-125 | SJ3-B25-125 | SJ4-B25-125 |
| J3-C50-125 | 3-C50-125 | J4-C50-125 | 4-C50-125 | SJ2-C50-125 | SJ3-C50-125 | SJ4-C50-125 |
| J3-B50-250 | 3-B50-250 | J4-B50-250 | 4-B50-250 | SJ2-B50-250 | SJ3-B50-250 | SJ4-B50-250 |
| J3-C100-250 | 3-C100-250 | J4-C100-250 | 4-C100-250 | SJ2-C100-250 | SJ3-C100-250 | SJ4-C100-250 |
| *J3-B50-1000 | *3-B50-1000 | *J4-B50-1000 | *4-B50-1000 | *SJ2-B50-1000 | *SJ3-B50-1000 | *SJ4-B50-1000 |
| *J3-C100-1000 | *3-C100-1000 | *J4-C100-1000 | *4-C100-1000 | *SJ2-C100-1000 | *SJ3-C100-1000 | *SJ4-C100-1000 |



*Conforms to A.G.D. Specifications Except for Range.

| Range | .250 | .125 | .100 | .075 | .050 | .025 |
|---|---|---|---|---|---|---|
| **CLASS 1** | J1-B50-250<br>J1-C100-250<br>1-B50-250<br>1-C100-250 | J1-B25-125<br>J1-C50-125<br>1-B25-125<br>1-C50-125<br>J1-B25-125-5<br>J1-C50-125-5<br>1-B25-125-5<br>1-C50-125-5 | J1-B20-100<br>J1-C40-100<br>1-B20-100<br>1-C40-100<br>J1-B20-100-5<br>J1-C40-100-5<br>1-B20-100-5<br>1-C40-100-5 | J1-B15-075-5<br>J1-C30-075-5<br>1-B15-075-5<br>1-C30-075-5 | J1-B10-050<br>J1-C20-050<br>1-B10-050<br>1-C20-050<br>J1-B10-050-5<br>J1-C20-050-5<br>1-B10-050-5<br>1-C20-050-5<br>J1-B10-050-25<br>J1-C20-050-25<br>1-B10-050-25<br>1-C20-050-25 | J1-B5-025-25<br>J1-C10-025-25<br>1-B5-025-25<br>1-C10-025-25<br>J1-B5-025-1<br>J1-C10-025-1<br>1-B5-025-1<br>1-C10-025-1 |
| | **Part No.** | **Part No.** | **Part No.** | **Part No.** | **Part No.** | **Part No.** |
| Back | 1-25-1 | 1-25-1 | 1-25-1 | 1-25-1 | 1-25-1 | 1-25-1 |
| Bearing, Pinion Jeweled | 1-25-2 | 1-25-2 | 1-25-2 | 1-25-2 | 1-25-2 | 1-25-2 |
| Bearing, Pinion | 1-25-3 | 1-25-3 | 1-25-3 | 1-25-3 | 1-25-3 | 1-25-3 |
| Bezel | 1-25-7 | 1-25-7 | 1-25-7 | 1-25-7 | 1-25-7 | 1-25-7 |
| Bushing, Stem | 2-25-10 | 2-25-10 | 2-25-10 | 2-25-10 | 2-25-10 | 2-25-10 |
| Bushing, Upper Enclosed | 2-25-11 | 2-25-11 | 2-25-11 | 2-25-11 | 2-25-11 | 2-25-11 |
| Cap, Dust | 2-25-13 | 2-25-13 | 2-25-13 | 2-25-13 | 2-25-13 | 2-25-13 |
| Case, Enclosed | 1-25-14 | 1-25-14 | 1-25-14 | 1-25-14 | 1-25-14 | 1-25-14 |
| Case, Exposed | 1-25-15 | 1-25-15 | 1-25-15 | 1-25-15 | 1-25-15 | 1-25-15 |
| Crystal | 1-25-17 | 1-25-17 | 1-25-17 | 1-25-17 | 1-25-17 | 1-25-17 |
| Dial | | | Specify Model | | | |
| Gear, Assembly Inter. | | 1-12-20 | 1-10-20 | 1-10-20 | 1-05-20 | 1-02-20 |
| Gear, Assembly Rack | 1-25-21 | 1-12-21 | 1-12-21 | 1-12-21 | 1-05-21 | 1-05-21 |
| Gear, Assembly Rack R.C. | | | | | | |
| Gear, Assembly Take Up | 1-25-23 | 1-25-23 | 1-25-23 | 1-25-23 | 1-25-23 | 1-25-23 |
| Gear, Assembly Take Up R.C. | | | | | | |
| Hand | 1-25-25 | 1-25-25 | 1-25-25 | 1-25-25 | 1-25-25 | 1-25-25 |
| Hand R.C. | | | | | | |
| Insert, Jewel | 2-25-27 | 2-25-27 | 2-25-27 | 2-25-27 | 2-25-27 | 2-25-27 |
| Insert, Jewel Pinion Brg. | 2-25-28 | 2-25-28 | 2-25-28 | 2-25-28 | 2-25-28 | 2-25-28 |
| Movement, Complete Full Jewel | 1-25-30J | 1-25-30J | 1-25-30J | 1-25-30J | 1-25-30J | 1-25-30J |
| Movement, Complete Plain | 1-25-30P | 1-25-30P | 1-25-30P | 1-25-30P | 1-25-30P | 1-25-30P |

# Dial Indicators Parts List

| | | | | | | |
|---|---|---|---|---|---|---|
| Pin, Pinion Brg | 2-25-31 | 2-25-31 | 2-25-31 | 2-25-31 | 2-25-31 | 2-25-31 |
| Pin, Hairspring | 2-25-32 | 2-25-32 | 2-25-32 | 2-25-32 | 2-25-32 | 2-25-32 |
| Pin, Rack Guide | 1-25-33 | 1-25-33 | 1-25-33 | 1-25-33 | 1-25-33 | 1-25-33 |
| Pinion | 1-25-34 | 1-25-34 | 1-25-34 | 1-07-43 | 1-07-43 | 1-07-43 |
| Plate, Bottom Full Jewel | 1-25-35 | 1-12-35 | 1-10-35 | 1-07-35 | 1-05-35 | 1-02-35 |
| Plate, Bottom Plain | 1-25-36 | 1-12-36 | 1-10-36 | 1-07-36 | 1-05-36 | 1-02-36 |
| Plate, Top Full Jewel | 1-25-37 | 1-12-37 | 1-10-37 | 1-07-37 | 1-05-37 | 1-02-37 |
| Plate, Top Plain | 1-25-38 | 1-12-38 | 1-10-38 | 1-07-38 | 1-05-38 | 1-02-38 |
| Point, Contact | 2-25-39 | 2-25-39 | 2-25-39 | 2-25-39 | 2-25-39 | 2-25-39 |
| Point, Upper | 2-25-40 | 2-25-40 | 2-25-40 | 2-25-40 | 2-25-40 | 2-25-40 |
| Post, Movement | 1-25-41 | 1-25-41 | 1-25-41 | 1-25-41 | 1-25-41 | 1-25-41 |
| Post, Hairspring | | | | | | |
| Rack | 1-25-43 | 1-12-43 | 1-10-43 | 1-07-43 | 1-05-43 | 1-02-43 |
| Screw, Rack | 2-25-44 | 2-25-44 | 2-25-44 | 2-25-44 | 2-25-44 | 2-25-44 |
| Screw, Bezel Guide | 2-25-45 | 2-25-45 | 2-25-45 | 2-25-45 | 2-25-45 | 2-25-45 |
| Screw, Eccentric Bezel Clamp | 2-25-46 | 2-25-46 | 2-25-46 | 2-25-46 | 2-25-46 | 2-25-46 |
| Screw, Rack Stop | 2-25-47 | 2-25-47 | 2-25-47 | 2-25-47 | 2-25-47 | 2-25-47 |
| Screw, Movement | 1-25-48 | 1-25-48 | 1-25-48 | 1-25-48 | 1-25-48 | 1-25-48 |
| Screw, Rack Slide | 2-25-50 | 2-25-50 | 2-25-50 | 2-25-50 | 2-25-50 | 2-25-50 |
| Screw, Bridge | 1-25-51 | 1-25-51 | 1-25-51 | 1-25-51 | 1-25-51 | 1-25-51 |
| Slide, Rack | 1-25-52 | 1-25-52 | 1-25-52 | 1-25-52 | 1-25-52 | 1-25-52 |
| Spring, Dial | 1-25-53 | 1-25-53 | 1-25-53 | 1-25-53 | 1-25-53 | 1-25-53 |
| Spring, Bezel Clamp | 1-25-54 | 1-25-54 | 1-25-54 | 1-25-54 | 1-25-54 | 1-25-54 |
| Spring, Hair | 1-25-55 | 1-25-55 | 1-25-55 | 1-25-55 | 1-25-55 | 1-25-55 |
| Spring, Rack | 1-25-56 | 1-25-56 | 1-25-56 | 1-25-56 | 1-25-56 | 1-25-56 |
| Stud, Rack Spring | 2-25-57 | 2-25-57 | 2-25-57 | 2-25-57 | 2-25-57 | 2-25-57 |
| Washer, Bezel Clamp | 2-25-58 | 2-25-58 | 2-25-58 | 2-25-58 | 2-25-58 | 2-25-58 |
| Gear, Assembly Rack | 1-25-70 | 1-12-70 | 1-12-70 | 1-12-70 | 1-05-70 | 1-05-70 |
| Gear, Assembly Take Up | 1-25-72 | 1-25-72 | 1-25-72 | 1-25-72 | 1-25-72 | 1-25-72 |

| Range | .250 | 1.000 | .125 | .100 | .075 | .050 | .025 | .020 | .200 |
|---|---|---|---|---|---|---|---|---|---|
| **CLASS 2** | J2-B50-250<br>J2-C100-250<br>2-B50-250<br>2-C100-250<br>SJ2-B50-250<br>SJ2-C100-250 | J2-B50-1000<br>J2-C100-1000<br>2-B50-1000<br>2-C100-1000<br>SJ2-B50-1000<br>SJ2-C100-1000 | J2-B25-125<br>J2-C50-125<br>2-B25-125<br>2-C50-125<br>SJ2-B25-125<br>SJ2-C50-125<br>J2-B25-125-5<br>J2-C50-125-5<br>2-B25-125-5<br>2-C50-125-5<br>SJ2-B25-125-5<br>SJ2-C50-125-5 | J2-B20-100<br>J2-C40-100<br>2-B20-100<br>2-C40-100<br>SJ2-B20-100<br>SJ2-C40-100<br>J2-B20-100-5<br>J2-C40-100-5<br>2-B20-100-5<br>2-C40-100-5<br>SJ2-B20-100-5<br>SJ2-C40-100-5 | J2-B15-075<br>J2-C30-075<br>2-B15-075<br>2-C30-075<br>J2-B15-075-5<br>J2-C30-075-5<br>2-B15-075-5<br>2-C30-075-5<br>SJ2-B15-075-5<br>SJ2-C30-075-5 | J2-B10-050<br>J2-C20-050<br>2-B10-050<br>2-C20-050<br>SJ2-B10-050<br>SJ2-C20-050<br>J2-B10-050-5<br>J2-C20-050-5<br>2-B10-050-5<br>2-C20-050-5<br>SJ2-B10-050-5<br>SJ2-C20-050-5<br>J2-B10-050-25<br>J2-C20-050-25<br>2-B10-050-25<br>2-C20-050-25<br>SJ2-B10-050-25<br>SJ2-C20-050-25 | J2-B5-025-25<br>J2-C10-025-25<br>2-B5-025-25<br>2-C10-025-25<br>SJ2-B5-025-25<br>SJ2-C10-025-25<br>J2-B5-205-1<br>J2-C10-025-1<br>2-B5-025-1<br>2-C10-025-1<br>SJ2-B5-025-1<br>SJ2-C10-025-1 | J2-B4-020-1<br>J2-C8-020-1<br>2-B4-020-1<br>2-C8-020-1<br>SJ2-B4-020-1 | J2-B5-200-1<br>J2-C10-200-1<br>2-B5-200-1<br>2-C10-200-1<br>SJ2-B5-200-1<br>SJ2-C10-200-1 |
| | **Part No.** | **Part No.** | **Part No.** | **Part No.** | **Part No.** | **Part No.** | **Part No.** | **Part No.** | **Part No.** |
| Back | 2-25-1 | 2-25-1 | 2-25-1 | 2-25-1 | 2-25-1 | 2-25-1 | 2-25-1 | 2-25-1 | 2-25-1 |
| Bearing, Pinion Jeweled | 2-25-2 | 2-25-2 | 2-25-2 | 2-25-2 | 2-25-2 | 2-25-2 | 2-25-2 | 2-25-2 | 2-25-2 |
| Bearing, Pinion | 2-25-3 | 2-25-3 | 2-25-3 | 2-25-3 | 2-25-3 | 2-25-3 | 2-25-3 | 2-25-3 | 2-25-3 |
| Bezel | 2-25-7 | 2-25-7 | 2-25-7 | 2-25-7 | 2-25-7 | 2-25-7 | 2-25-7 | 2-25-7 | 2-25-7 |
| Bushing, Stem | 2-25-10 | 2-25-10 | 2-25-10 | 2-25-10 | 2-25-10 | 2-25-10 | 2-25-10 | 2-25-10 | 2-25-10 |
| Bushing, Upper Enclosed | 2-25-11 | 2-25-11 | 2-25-11 | 2-25-11 | 2-25-11 | 2-25-11 | 2-25-11 | 2-25-11 | 2-25-11 |
| Cap, Dust | 2-25-13 | 2-1000-13 | 2-25-13 | 2-25-13 | 2-25-13 | 2-25-13 | 2-25-13 | 2-25-13 | 2-25-13 |
| Case, Enclosed | 2-25-14 | 2-25-14 | 2-25-14 | 2-25-14 | 2-25-14 | 2-25-14 | 2-25-14 | 2-25-14 | 2-25-14 |
| Case, Exposed | 2-25-15 | 2-25-15 | 2-25-15 | 2-25-15 | 2-25-15 | 2-25-15 | 2-25-15 | 2-25-15 | 2-25-15 |
| Crystal | 2-25-17 | 2-25-17 | 2-25-17 | 2-25-17 | 2-25-17 | 2-25-17 | 2-25-17 | 2-25-17 | 2-25-17 |
| Dial | | | | Specify | Model | | | | |
| Gear, Assembly Inter | | | 2-12-20 | 2-10-20 | 2-07-20 | 2-05-20 | 2-02-20 | 2-020-20 | 2-02-20 |
| Gear, Assembly Rack | 2-25-21 | | 2-12-21 | 2-12-21 | 2-12-21 | 2-12-21 | 2-02-21 | 2-02-21 | |
| Gear, Assembly Rack R.C. | | 2-25-22 | | | | | | | 2-20-22 |
| Gear, Assembly Take Up | 2-25-23 | 2-25-23 | 2-25-23 | 2-25-23 | 2-25-23 | 2-25-23 | 2-25-23 | 2-25-23 | 2-25-23 |
| Gear, Assembly Take Up R.C. | | | | | | | | | 2-20-24 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Hand | 2-25-25 | 2-25-25 | 2-25-25 | 2-25-25 | 2-25-25 | 2-25-25 | 2-25-25 | 2-25-25 | 2-25-25 |
| Hand R.C. | | 2-25-26 | | | | | | | 2-25-26 |
| Insert, Jewel | 2-25-27 | 2-25-27 | 2-25-27 | 2-25-27 | 2-25-27 | 2-25-27 | 2-25-27 | 2-25-27 | 2-25-27 |
| Insert, Jewel Pinion Brg. | 2-25-28 | 2-25-28 | 2-25-28 | 2-25-28 | 2-25-28 | 2-25-28 | 2-25-28 | 2-25-28 | 2-25-28 |
| Movement, Complete Full Jewel | 2-25-30J | 2-1000-30J | 2-12-30J | 2-10-30J | 2-07-30J | 2-05-30J | 2-02-30J | 2-020-30J | 2-02-30J |
| Movement, Complete Plain | 2-25-30P | 2-1000-30P | 2-12-30P | 2-10-30P | 2-07-30P | 2-05-30P | 2-02-30P | 2-020-30P | 2-02-30P |
| Pin, Pinion Brg. | 2-25-31 | 2-25-31 | 2-25-31 | 2-25-31 | 2-25-31 | 2-25-31 | 2-25-31 | 2-25-31 | 2-25-31 |
| Pin, Hairspring | 2-25-32 | 2-25-32 | 2-25-32 | 2-25-32 | 2-25-32 | 2-25-32 | 2-25-32 | 2-25-32 | 2-25-32 |
| Pin, Rack Guide | 2-25-33 | 2-25-33 | 2-25-33 | 2-25-33 | 2-25-33 | 2-25-33 | 2-25-33 | 2-25-33 | 2-25-33 |
| Pinion | 2-25-34 | 2-25-34 | 2-25-34 | 2-25-34 | 2-25-34 | 2-25-34 | 2-25-34 | 2-25-34 | 2-25-34 |
| Plate, Bottom Full Jewel | 2-25-35 | 2-1000-35 | 2-12-35 | 2-10-35 | 2-07-35 | 2-05-35 | 2-02-35 | 2-020-35 | 2-02-35 |
| Plate, Bottom Plain | 2-25-36 | 2-1000-36 | 2-12-36 | 2-10-36 | 2-07-36 | 2-05-36 | 2-02-36 | 2-020-36 | 2-02-36 |
| Plate, Top Full Jewel | 2-25-37 | 2-25-37 | 2-12-37 | 2-10-37 | 2-07-37 | 2-05-37 | 2-02-37 | 2-020-37 | 2-02-37 |
| Plate, Top Plain | 2-25-38 | 2-25-38 | 2-12-38 | 2-10-38 | 2-07-38 | 2-05-38 | 2-02-38 | 2-020-38 | 2-02-38 |
| Points, Contact | 2-25-39 | 2-25-39 | 2-25-39 | 2-25-39 | 2-25-39 | 2-25-39 | 2-25-39 | 2-25-39 | 2-25-39 |
| Points, Upper | 2-25-40 | 2-25-40 | 2-25-40 | 2-25-40 | 2-25-40 | 2-25-40 | 2-25-40 | 2-25-40 | 2-25-40 |
| Post, Movement | 2-25-41 | 2-25-41 | 2-25-41 | 2-25-41 | 2-25-41 | 2-25-41 | 2-25-41 | 2-25-41 | 2-25-41 |
| Post, Hairspring | 2-25-42 | 2-25-42 | 2-25-42 | 2-25-42 | 2-25-42 | 2-25-42 | 2-25-42 | 2-25-42 | 2-25-42 |
| Rack | 2-25-43 | 2-1000-43 | 2-12-43 | 2-10-43 | 2-07-43 | 2-05-43 | 2-02-43 | 2-020-43 | 2-20-43 |
| Screw, Back | 2-25-44 | 2-25-44 | 2-25-44 | 2-25-44 | 2-25-44 | 2-25-44 | 2-25-44 | 2-25-44 | 2-25-44 |
| Screw, Bezel Guide | 2-25-45 | 2-25-45 | 2-25-45 | 2-25-45 | 2-25-45 | 2-25-45 | 2-25-45 | 2-25-45 | 2-25-45 |
| Screw, Eccentric Bezel Clamp | 2-25-46 | 2-25-46 | 2-25-46 | 2-25-46 | 2-25-46 | 2-25-46 | 2-25-46 | 2-25-46 | 2-25-46 |
| Screw, Rack Stop | 2-25-47 | 2-25-47 | 2-25-47 | 2-25-47 | 2-25-47 | 2-25-47 | 2-25-47 | 2-25-47 | 2-25-47 |
| Screw, Movement | 2-25-48 | 2-25-48 | 2-25-48 | 2-25-48 | 2-25-48 | 2-25-48 | 2-25-48 | 2-25-48 | 2-25-48 |
| Screw, Rack Slide | 2-25-50 | 2-25-50 | 2-25-50 | 2-25-50 | 2-25-50 | 2-25-50 | 2-25-50 | 2-25-50 | 2-25-50 |
| Screw, Bridge | 2-25-51 | 2-25-51 | 2-25-51 | 2-25-51 | 2-25-51 | 2-25-51 | 2-25-51 | 2-25-51 | 2-25-51 |
| Slide, Rack | 2-25-52 | 2-1000-52 | 2-25-52 | 2-25-52 | 2-25-52 | 2-25-52 | 2-25-52 | 2-25-52 | 2-25-52 |
| Spring, Dial | 2-25-53 | 2-25-53 | 2-25-53 | 2-25-53 | 2-25-53 | 2-25-53 | 2-25-53 | 2-25-53 | 2-25-53 |
| Spring, Bezel, Clamp | 2-25-54 | 2-25-54 | 2-25-54 | 2-25-54 | 2-25-54 | 2-25-54 | 2-25-54 | 2-25-54 | 2-25-54 |
| Spring, Hair | 2-25-55 | 2-25-55 | 2-25-55 | 2-25-55 | 2-25-55 | 2-25-55 | 2-25-55 | 2-25-55 | 2-25-55 |
| Spring, Rack | 2-25-56 | 2-25-56 | 2-25-56 | 2-25-56 | 2-25-56 | 2-25-56 | 2-25-56 | 2-25-56 | 2-25-56 |
| Stud, Rack Spring | 2-25-57 | 2-25-57 | 2-25-57 | 2-25-57 | 2-25-57 | 2-25-57 | 2-25-57 | 2-25-57 | 2-25-57 |
| Washer, Bezel Clamp | 2-25-58 | 2-25-58 | 2-25-58 | 2-25-58 | 2-25-58 | 2-25-58 | 2-25-58 | 2-25-58 | 2-25-58 |
| Gear Assembly Rack | 2-25-70 | | 2-12-70 | 2-25-70 | 2-25-70 | 2-25-70 | 2-02-70 | 2-25-70 | 2-20-71 |
| Gear Assembly Rack R.C. | | 2-1000-71 | | | | | | | 2-20-72 |
| Gear Assembly Take Up | 2-25-72 | 2-25-72 | 2-25-72 | 2-25-72 | 2-25-72 | 2-25-72 | 2-25-72 | 2-25-72 | |

| Range | .250 | 1.000 | .125 | .100 | .075 | .050 | .025 | .020 | .200 |
|---|---|---|---|---|---|---|---|---|---|
| **CLASS 3** | J3-B50-250<br>J3-C100-250<br>3-B50-250<br>3-C100-250<br>SJ3-B50-250<br>SJ3-C100-250 | J3-B50-1000<br>J3-C100-1000<br>3-B50-1000<br>3-C100-1000<br>SJ3-B50-1000<br>SJ3-C100-1000 | J3-B25-125<br>J3-C50-125<br>3-B25-125<br>3-C50-125<br>SJ3-B25-125<br>SJ3-C50-125<br>J3-B25-125-5<br>J3-C50-125-5<br>3-B25-125-5<br>3-C50-125-5<br>SJ3-B25-125-5<br>SJ3-C50-125-5 | J3-B20-100<br>J3-C40-100<br>3-B20-100<br>3-C40-100<br>J3-B20-100-5<br>J3-C40-100-5<br>3-B20-100-5<br>3-C40-100-5<br>SJ3-B20-100-5<br>SJ3-C40-100-5 | J3-B15-075-5<br>J3-C30-075-5<br>3-B15-075-5<br>3-C30-075-5<br>SJ3-B15-075-5<br>SJ3-C30-075-5<br>J3-B15-075-25<br>J3-C30-075-25<br>3-B15-075-25<br>3-C30-075-25 | J3-B10-050<br>J3-C20-050<br>3-B10-050<br>3-C20-050<br>J3-B10-050-5<br>J3-C20-050-5<br>3-B10-050-5<br>3-C20-050-5<br>J3-B10-050-25<br>J3-C20-050-25<br>3-B10-050-25<br>3-C20-050-25 | J3-B5-025-25<br>J3-C10-025-25<br>3-B5-025-25<br>3-C10-025-25<br>J3-B5-025-1<br>J3-C10-025-1<br>3-B5-025-1<br>3-C10-025-1<br>SJ3-B5-025-1<br>SJ3-C10-025-1 | J3-B4-020-1<br>J3-C8-020-1<br>3-B4-020-1<br>3-C8-020-1 | J3-B5-200-1<br>J3-C10-200-1<br>3-B5-200-1<br>3-C10-200-1<br>SJ3-B5-200-1<br>SJ3-C10-200-1 |
| | **Part No.** | **Part No.** | **Part No.** | **Part No.** | **Part No.** | **Part No.** | **Part No.** | **Part No.** | **Part No.** |
| Back | 2-25-1 | 2-25-1 | 2-25-1 | 2-25-1 | 2-25-1 | 2-25-1 | 2-25-1 | 2-25-1 | 2-25-1 |
| Bearing, Pinion Jeweled | 2-25-2 | 2-25-2 | 2-25-2 | 2-25-2 | 2-25-2 | 2-25-2 | 2-25-2 | 2-25-2 | 2-25-2 |
| Bearing, Pinion | 2-25-3 | 2-25-3 | 2-25-3 | 2-25-3 | 2-25-3 | 2-25-3 | 2-25-3 | 2-25-3 | 2-25-3 |
| Bezel | 3-25-7 | 3-25-7 | 3-25-7 | 3-25-7 | 3-25-7 | 3-25-7 | 3-25-7 | 3-25-7 | 3-25-7 |
| Bushing, Stem | 2-25-10 | 2-25-10 | 2-25-10 | 2-25-10 | 2-25-10 | 2-25-10 | 2-25-10 | 2-25-10 | 2-25-10 |
| Bushing, Upper Enclosed | 2-25-11 | 2-25-11 | 2-25-11 | 2-25-11 | 2-25-11 | 2-25-11 | 2-25-11 | 2-25-11 | 2-25-11 |
| Cap, Dust | 2-25-13 | 2-1000-13 | 2-25-13 | 2-25-13 | 2-25-13 | 2-25-13 | 2-25-13 | 2-25-13 | 2-25-13 |
| Case, Enclosed | 3-25-14 | 3-25-14 | 3-25-14 | 3-25-14 | 3-25-14 | 3-25-14 | 3-25-14 | 3-25-14 | 3-25-14 |
| Case, Exposed | 3-25-15 | 3-25-15 | 3-25-15 | 3-25-15 | 3-25-15 | 3-25-15 | 3-25-15 | 3-25-15 | 3-25-15 |
| Crystal | 3-25-17 | 3-25-17 | 3-25-17 | 3-25-17 | 3-25-17 | 3-25-17 | 3-25-17 | 3-25-17 | 3-25-17 |
| Dial | | | | Specify Model | | | | | |
| Gear, Assembly Inter. | | | 2-12-20 | 2-10-20 | 2-07-20 | 2-05-20 | 2-02-20 | 2-020-20 | 2-02-20 |
| Gear, Assembly Rack | 2-25-21 | | 2-12-21 | 2-12-21 | 2-12-21 | 2-12-21 | 2-02-21 | 2-02-21 | |
| Gear, Assembly Rack R.C. | | 2-25-22 | | | | | | | 2-20-22 |
| Gear, Assembly Take Up | 2-25-23 | 2-25-23 | 2-25-23 | 2-25-23 | 2-25-23 | 2-25-23 | 2-25-23 | 2-25-23 | 2-25-23 |
| Gear, Assembly, Take Up R.C. | | | | | | | | | 2-20-24 |
| Hand | 3-25-25 | 3-25-25 | 3-25-25 | 3-25-25 | 3-25-25 | 3-25-25 | 3-25-25 | 3-25-25 | 3-25-25 |
| Hand R.C. | | 2-25-26 | | | | | | | 2-25-26 |
| Insert, Jewel | 2-25-27 | 2-25-27 | 2-25-27 | 2-25-27 | 2-25-27 | 2-25-27 | 2-25-27 | 2-25-27 | 2-25-27 |
| Insert, Jewel, Pinion Brg. | 2-25-28 | 2-25-28 | 2-25-28 | 2-25-28 | 2-25-28 | 2-25-28 | 2-25-28 | 2-25-28 | 2-25-28 |
| Movement, Complete Full Jewel | 2-25-30J | 2-1000-30J | 2-12-30J | 2-10-30J | 2-07-30J | 2-05-30J | 2-02-30J | 2-020-30J | 2-02-30J |
| Movement, Complete Plain | 2-25-30P | 2-1000-30P | 2-12-30P | 2-10-30P | 2-07-30P | 2-05-30P | 2-02-30P | 2-020-30P | 2-02-30P |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Pin, Pinion Brg | 2-25-31 | 2-25-31 | 2-25-31 | 2-25-31 | 2-25-31 | 2-25-31 | 2-25-31 | 2-25-31 | 2-25-31 |
| Pin, Hairspring | 2-25-32 | 2-25-32 | 2-25-32 | 2-25-32 | 2-25-32 | 2-25-32 | 2-25-32 | 2-25-32 | 2-25-32 |
| Pin, Rack Guide | 2-25-33 | 2-25-33 | 2-25-33 | 2-25-33 | 2-25-33 | 2-25-33 | 2-25-33 | 2-25-33 | 2-25-33 |
| Pinion | 2-25-34 | 2-25-34 | 2-25-34 | 2-25-34 | 2-25-34 | 2-25-34 | 2-25-34 | 2-25-34 | 2-25-34 |
| Plate, Bottom Full Jewel | 2-25-35 | 2-1000-35 | 2-12-35 | 2-10-35 | 2-07-35 | 2-05-35 | 2-02-35 | 2-020-35 | 2-02-35 |
| Plate, Bottom Plain | 2-25-36 | 2-1000-36 | 2-12-36 | 2-10-36 | 2-07-36 | 2-05-36 | 2-02-36 | 2-020-36 | 2-02-36 |
| Plate, Top Full Jewel | 2-25-37 | 2-25-37 | 2-12-37 | 2-10-37 | 2-07-37 | 2-05-37 | 2-02-37 | 2-020-37 | 2-02-37 |
| Plate, Top Plain | 2-25-38 | 2-25-38 | 2-12-38 | 2-10-38 | 2-07-38 | 2-05-38 | 2-02-38 | 2-020-38 | 2-02-38 |
| Point, Contact | 2-25-39 | 2-25-39 | 2-25-39 | 2-25-39 | 2-25-39 | 2-25-39 | 2-25-39 | 2-25-39 | 2-25-39 |
| Point, Upper | 2-25-40 | 2-25-40 | 2-25-40 | 2-25-40 | 2-25-40 | 2-25-40 | 2-25-40 | 2-25-40 | 2-25-40 |
| Post, Movement | 2-25-41 | 2-25-41 | 2-25-41 | 2-25-41 | 2-25-41 | 2-25-41 | 2-25-41 | 2-25-41 | 2-25-41 |
| Post, Hairspring | 2-25-41 | 2-25-41 | 2-25-41 | 2-25-41 | 2-25-41 | 2-25-41 | 2-25-41 | 2-25-41 | 2-25-41 |
| Rack | 3-25-43 | 3-1000-43 | 3-12-43 | 3-10-43 | 3-07-43 | 3-05-43 | 3-02-43 | 3-020-43 | 3-20-43 |
| Screw, Back | 2-25-44 | 2-25-44 | 2-25-44 | 2-25-44 | 2-25-44 | 2-25-44 | 2-25-44 | 2-25-44 | 2-25-44 |
| Screw, Bezel Guide | 2-25-45 | 2-25-45 | 2-25-45 | 2-25-45 | 2-25-45 | 2-25-45 | 2-25-45 | 2-25-45 | 2-25-45 |
| Screw, Eccentric Bezel Clamp | 2-25-46 | 2-25-46 | 2-25-46 | 2-25-46 | 2-25-46 | 2-25-46 | 2-25-46 | 2-25-46 | 2-25-46 |
| Screw, Rack Stop | 2-25-47 | 2-25-47 | 2-25-47 | 2-25-47 | 2-25-47 | 2-25-47 | 2-25-47 | 2-25-47 | 2-25-47 |
| Screw, Movement | 2-25-48 | 2-25-48 | 2-25-48 | 2-25-48 | 2-25-48 | 2-25-48 | 2-25-48 | 2-25-48 | 2-25-48 |
| Screw, Rack Slide | 2-25-50 | 2-25-50 | 2-25-50 | 2-25-50 | 2-25-50 | 2-25-50 | 2-25-50 | 2-25-50 | 2-25-50 |
| Screw, Bridge | 2-25-51 | 2-25-51 | 2-25-51 | 2-25-51 | 2-25-51 | 2-25-51 | 2-25-51 | 2-25-51 | 2-25-51 |
| Slide, Rack | 2-25-52 | 2-1000-52 | 2-25-52 | 2-25-52 | 2-25-52 | 2-25-52 | 2-25-52 | 2-25-52 | 2-25-52 |
| Spring, Dial | 2-25-53 | 2-25-53 | 2-25-53 | 2-25-53 | 2-25-53 | 2-25-53 | 2-25-53 | 2-25-53 | 2-25-53 |
| Spring, Bezel Clamp | 2-25-54 | 2-25-54 | 2-25-54 | 2-25-54 | 2-25-54 | 2-25-54 | 2-25-54 | 2-25-54 | 2-25-54 |
| Spring, Hair | 2-25-55 | 2-25-55 | 2-25-55 | 2-25-55 | 2-25-55 | 2-25-55 | 2-25-55 | 2-25-55 | 2-25-55 |
| Spring, Rack | 2-25-56 | 2-25-56 | 2-25-56 | 2-25-56 | 2-25-56 | 2-25-56 | 2-25-56 | 2-25-56 | 2-25-56 |
| Stud, Rack, Spring | 2-25-57 | 2-25-57 | 2-25-57 | 2-25-57 | 2-25-57 | 2-25-57 | 2-25-57 | 2-25-57 | 2-25-57 |
| Washer, Bezel Clamp | 2-25-58 | 2-25-58 | 2-25-58 | 2-25-58 | 2-25-58 | 2-25-58 | 2-25-58 | 2-25-58 | 2-25-58 |
| Gear, Assembly Rack | 2-25-70 | | 2-12-70 | 2-25-70 | 2-25-70 | 2-25-70 | 2-25-70 | 2-25-70 | 2-20-71 |
| Gear, Assembly Rack R.C. | | 2-1000-71 | | | | | | | |
| Gear, Assembly Take Up | 2-25-72 | 2-25-72 | 2-25-72 | 2-25-72 | 2-25-72 | 2-25-72 | 2-25-72 | 2-25-72 | 2-20-27 |

| Range | .250 | 1.000 | .125 | .100 | .075 | .050 | .025 | .020 | .200 |
|---|---|---|---|---|---|---|---|---|---|
| **CLASS 4** | J4-B50-250<br>J4-C100-250<br>4-B50-250<br>4-C100-250<br>SJ4-B50-250<br>SJ4-C100-250 | J4-C100-1000<br>4-C100-1000<br>SJ4-B50-1000<br>SJ4-C100-1000 | J4-B25-125<br>J4-C50-125<br>4-B25-125<br>4-C50-125<br>SJ4-B25-125<br>SJ4-C50-125<br>J4-B25-125-5<br>J4-C50-125-5<br>4-B25-125-5<br>4-C50-125-5<br>SJ4-B25-125-5<br>SJ4-C50-125-5 | J4-B20-100<br>J4-C40-100<br>4-B20-100<br>4-C40-100<br>J4-B20-100-5<br>J4-C40-100-5<br>4-B20-100-5<br>4-C40-100-5<br>SJ4-B20-100-5<br>SJ4-C40-100-5 | J4-B15-075<br>J4-C30-075<br>4-B15-075<br>4-C30-075<br>J4-B15-075-5<br>J4-C30-075-5<br>4-B15-075-5<br>4-C30-075-5<br>SJ4-B15-075-5<br>SJ4-B30-075-5<br>J4-B15-075-25<br>J4-C30-075-25<br>4-B15-075-25<br>4-C30-075-25 | J4-B10-050<br>J4-C20-050<br>4-B10-050<br>4-C20-050<br>J4-B10-050-5<br>J4-C20-050-5<br>4-B10-050-5<br>4-C20-050-5<br>J4-B10-050-25<br>J4-C20-050-25<br>4-B10-050-25<br>4-C20-050-25 | J4-B5-025-25<br>J4-C10-025-25<br>4-B5-025-25<br>4-C10-025-25<br>J4-B5-025-1<br>J4-C10-025-1<br>4-B5-025-1<br>4-C10-025-1<br>SJ4-B5-025-1<br>SJ4-C10-025-1 | J4-B4-020-1<br>J4-C8-020-1<br>4-B4-020-1<br>4-C8-020-1 | J4-C10-200-1<br>4-C10-200-1<br>SJ4-B5-200-1<br>SJ4-C10-200-1 |
| | **Part No.** | **Part No.** | **Part No.** | **Part No.** | **Part No.** | **Part No.** | **Part No.** | **Part No.** | **Part No.** |
| Back | 2-25-1 | 2-25-1 | 2-25-1 | 2-25-1 | 2-25-1 | 2-25-1 | 2-25-1 | 2-25-1 | 2-25-1 |
| Bearing, Pinion Jeweled | 2-25-2 | 2-25-2 | 2-25-2 | 2-25-2 | 2-25-2 | 2-25-2 | 2-25-2 | 2-25-2 | 2-25-2 |
| Bearing, Pinion | 2-25-3 | 2-25-3 | 2-25-3 | 2-25-3 | 2-25-3 | 2-25-3 | 2-25-3 | 2-25-3 | 2-25-3 |
| Bezel | 4-25-7 | 4-25-7 | 4-25-7 | 4-25-7 | 4-25-7 | 4-25-7 | 4-25-7 | 4-25-7 | 4-25-7 |
| Bushing, Stem | 2-25-10 | 2-25-10 | 2-25-10 | 2-25-10 | 2-25-10 | 2-25-10 | 2-25-10 | 2-25-10 | 2-25-10 |
| Bushing, Upper Enclosed | 4-25-11 | 4-25-11 | 4-25-11 | 4-25-11 | 4-25-11 | 4-25-11 | 4-25-11 | 4-25-11 | 4-25-11 |
| Cap, Dust | 4-25-13 | 4-1000-13 | 4-25-13 | 4-25-13 | 4-25-13 | 4-25-13 | 4-25-13 | 4-25-13 | 4-25-13 |
| Case, Enclosed | 4-25-14 | 4-1000-14 | 4-25-14 | 4-25-14 | 4-25-14 | 4-25-14 | 4-25-14 | 4-25-14 | 4-25-14 |
| Crystal | 4-25-17 | 4-25-17 | 4-25-17 | 4-25-17 | 4-25-17 | 4-25-17 | 4-25-17 | 4-25-17 | 4-25-17 |
| Dial | | | | Specify Model | | | | | |
| Gear, Assembly Inter. | | | 2-12-20 | 2-10-20 | 2-07-20 | 2-05-20 | 2-02-20 | 2-020-20 | 2-02-20 |
| Gear, Assembly Rack | 2-25-21 | | 2-12-21 | 2-12-21 | 2-12-21 | 2-12-21 | 2-02-21 | 2-02-21 | |
| Gear, Assembly Rack R.C. | | 2-25-22 | | | | | | | 2-20-22 |
| Gear, Assembly Take Up | 2-25-23 | 2-25-23 | 2-25-23 | 2-25-23 | 2-25-23 | 2-25-23 | 2-25-23 | 2-25-23 | 2-25-23 |
| Gear, Assembly Take Up R.C. | | | | | | | | | 2-20-24 |
| Hand | 4-25-25 | 4-25-25 | 4-25-25 | 4-25-25 | 4-25-25 | 4-25-25 | 4-25-25 | 4-25-25 | 4-25-25 |
| Hand R.C. | | 2-25-26 | | | | | | | 2-25-26 |
| Insert, Jewel | 2-25-27 | 2-25-27 | 2-25-27 | 2-25-27 | 2-25-27 | 2-25-27 | 2-25-27 | 2-25-27 | 2-25-27 |
| Insert, Pinion Brg. Jewel | 2-25-28 | 2-25-28 | 2-25-28 | 2-25-28 | 2-25-28 | 2-25-28 | 2-25-28 | 2-25-28 | 2-25-28 |
| Movement, Complete Full Jewel | 2-25-30J | 2-1000-30J | 2-12-30J | 2-10-30J | 2-07-30J | 2-05-30J | 2-02-30J | 2-020-30J | 2-02-30J |

# Dial Indicators Parts List

| | 2-25-30P | 2-1000-30P | 2-12-30P | 2-10-30P | 2-07-30P | 2-05-30P | 2-02-30P | 2-020-30P | 2-02-30P |
|---|---|---|---|---|---|---|---|---|---|
| Movement, Complete Plain | 2-25-31 | 2-25-31 | 2-25-31 | 2-25-31 | 2-25-31 | 2-25-31 | 2-25-31 | 2-25-31 | 2-25-31 |
| Pin, Pinion Brg. | 2-25-32 | 2-25-32 | 2-25-32 | 2-25-32 | 2-25-32 | 2-25-32 | 2-25-32 | 2-25-32 | 2-25-32 |
| Pin, Hairspring | 2-25-33 | 2-25-33 | 2-25-33 | 2-25-33 | 2-25-33 | 2-25-33 | 2-25-33 | 2-25-33 | 2-25-33 |
| Pin, Rack Guide | 2-25-34 | 2-25-34 | 2-25-34 | 2-25-34 | 2-25-34 | 2-25-34 | 2-25-34 | 2-25-34 | 2-25-34 |
| Pinion | 2-25-35 | 2-1000-35 | 2-12-35 | 2-10-35 | 2-07-35 | 2-05-35 | 2-02-35 | 2-020-35 | 2-02-35 |
| Plate, Bottom Full Jewel | 2-25-36 | 2-1000-36 | 2-12-36 | 2-10-36 | 2-07-36 | 2-05-36 | 2-02-36 | 2-020-36 | 2-02-36 |
| Plate, Bottom Plain | 2-25-37 | 2-25-37 | 2-12-37 | 2-10-37 | 2-07-37 | 2-05-36 | 2-02-37 | 2-020-37 | 2-02-37 |
| Plate, Top Full Jewel | 2-25-38 | 2-25-38 | 2-12-38 | 2-10-38 | 2-07-38 | 2-05-38 | 2-02-38 | 2-020-38 | 2-02-38 |
| Plate, Top, Plain | 2-25-39 | 2-25-39 | 2-12-39 | 2-10-39 | 2-07-39 | 2-05-39 | 2-02-39 | 2-020-39 | 2-02-39 |
| Point, Contact | 2-25-40 | 2-25-40 | 2-12-40 | 2-10-40 | 2-07-40 | 2-05-40 | 2-02-40 | 2-020-40 | 2-02-40 |
| Point, Upper | 2-25-41 | 2-25-41 | 2-12-41 | 2-10-41 | 2-07-41 | 2-05-41 | 2-02-41 | 2-020-41 | 2-02-41 |
| Post, Movement | 2-25-42 | 2-25-42 | 2-12-42 | 2-10-42 | 2-07-42 | 2-05-42 | 2-02-42 | 2-020-42 | 2-02-42 |
| Post, Hairspring | 4-25-43 | 4-1000-43 | 4-12-43 | 4-10-43 | 4-07-43 | 4-05-43 | 4-02-43 | 4-020-43 | 4-20-43 |
| Rack | 2-25-44 | 2-25-44 | 2-25-44 | 2-25-44 | 2-25-44 | 2-25-44 | 2-25-44 | 2-25-44 | 2-25-44 |
| Screw, Back | 2-25-45 | 2-25-45 | 2-25-45 | 2-25-45 | 2-25-45 | 2-25-45 | 2-25-45 | 2-25-45 | 2-25-45 |
| Screw, Bezel Guide | 2-25-46 | 2-25-46 | 2-25-46 | 2-25-46 | 2-25-46 | 2-25-46 | 2-25-46 | 2-25-46 | 2-25-46 |
| Screw, Eccentric Bezel Clamp | 2-25-47 | 2-25-47 | 2-25-47 | 2-25-47 | 2-25-47 | 2-25-47 | 2-25-47 | 2-25-47 | 2-25-47 |
| Screw, Rack Stop | 2-25-48 | 2-25-48 | 2-25-48 | 2-25-48 | 2-25-48 | 2-25-48 | 2-25-48 | 2-25-48 | 2-25-48 |
| Screw, Movement | 2-25-50 | 2-25-50 | 2-25-50 | 2-25-50 | 2-25-50 | 2-25-50 | 2-25-50 | 2-25-50 | 2-25-50 |
| Screw, Rack Slide | 2-25-51 | 2-25-51 | 2-25-51 | 2-25-51 | 2-25-51 | 2-25-51 | 2-25-51 | 2-25-51 | 2-25-51 |
| Screw, Bridge | 2-25-52 | 2-1000-52 | 2-25-52 | 2-25-52 | 2-25-52 | 2-25-52 | 2-25-52 | 2-25-52 | 2-25-52 |
| Slide, Rack | 2-25-53 | 2-25-53 | 2-25-53 | 2-25-53 | 2-25-53 | 2-25-53 | 2-25-53 | 2-25-53 | 2-25-53 |
| Spring, Dial | 2-25-54 | 2-25-54 | 2-25-54 | 2-25-54 | 2-25-54 | 2-25-54 | 2-25-54 | 2-25-54 | 2-25-54 |
| Spring, Bezel Clamp | 2-25-55 | 2-25-55 | 2-25-55 | 2-25-55 | 2-25-55 | 2-25-55 | 2-25-55 | 2-25-55 | 2-25-55 |
| Spring, Hair | 2-25-56 | 2-25-56 | 2-25-56 | 2-25-56 | 2-25-56 | 2-25-56 | 2-25-56 | 2-25-56 | 2-25-56 |
| Spring, Rack | 2-25-57 | 2-25-57 | 2-25-57 | 2-25-57 | 2-25-57 | 2-25-57 | 2-25-57 | 2-25-57 | 2-25-57 |
| Stud, Rack Spring | 2-25-58 | 2-25-58 | 2-25-58 | 2-25-58 | 2-25-58 | 2-25-58 | 2-25-58 | 2-25-58 | 2-25-58 |
| Washer, Bezel Clamp | | | | | | | | | |
| Gear, Assembly Rack | 2-25-70 | | 2-12-70 | 2-25-70 | 2-25-70 | 2-25-70 | 2-25-70 | 2-25-70 | 2-20-71 |
| Gear, Assembly Rack R.C. | | 2-1000-71 | | | | | | | 2-20-72 |
| Gear, Assembly Take Up | 2-25-72 | 2-25-72 | 2-25-72 | 2-25-72 | 2-25-72 | 2-25-72 | 2-25-72 | 2-25-72 | |

# Dial Indicators

## Contact Points




Hardened steel points with polished contact area to prevent scratching. Standard A.G.D. 4-48 thread. No. D50—¼″ point is regularly furnished with indicators. Regular points are $\frac{3}{16}$″ diameter and have a $\frac{3}{16}$″ contact radius. Available in sizes from ¼″ long to 4″ long in increments of ¼″. Longer lengths available on special order. No. D52 points are $\frac{3}{16}$″ diameter tapered to a .031″ contact radius. Available in $1\frac{3}{32}$, 1, $1\frac{1}{2}$, and 2″ lengths. No. D53 points are .200″ long, ⅜″ diameter and have ⅜″ contact radius. No. D54 point is $\frac{3}{16}$″ diameter, has flat contact area and is available in lengths ¼ to 2″ in increments of ¼″.

No. **D50** Regular Contact Point (Specify length)
No. **D52** Tapered Contact Points (Specify length)
No. **D53** Button Contact Points
No. **D54** Flat Contact Points (Specify length)

*FOR PRICES SEE PRICE LIST*

# Dial Indicator Backs

Regular Back on an indicator

The regular back No. D20 is regularly furnished with all Lufkin Dial Indicators. Backs have four screw holes permitting indexing at 90°. Special backs for special applications can be furnished. Prices on request.

No. **D20** Regular back for class 2, 3 & 4 indicators.

No. **D201** Regular back for class 1 indicators.

No. **D21** Flat back for class 2, 3 & 4 indicators. (*Not illustrated*)

No. **D211** Flat back for class 1 indicators.

No. D22 Offset Back

No. **D22** Offset back for class 2, 3 & 4 indicators. Offset ¼″ from center.

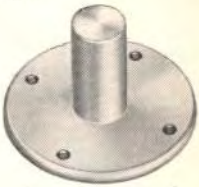
No. **D221** Offset back for class 1 indicator. Offset ¼″ from center.

No. **D23** Adjustable back for class 2, 3 & 4 indicator. Slot is ½″ wide, ⅛″ deep x 1¼″ long. Hole has ¼-20 thread.

No. D23 Adjustable Back

No. D25 Screw Bracket Back

No. D20 Regular Back



No. D24 Post Back

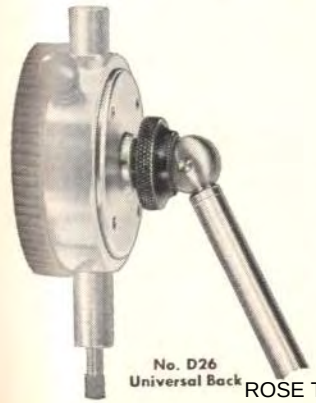
No. **D231** Adjustable back for class 1 indicator. Slot is ½″ wide, ⅛″ deep and 15/16″ long. Hole has ¼-20 thread.

No. **D24** Post back for class 2, 3 & 4 indicators. Post is ½″ diameter, 1″ long.

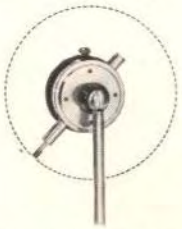
No. **D241** Post back for class 1 indicators. Post is ½″ diameter, 1″ long.

No. **D25** Screw Bracket back for class 2, 3 & 4 indicators. Stud is ½″ high, 11/16″ diameter with ¼-28 thread.

No. **D251** Screw Bracket back for class 1 indicator. Stud is ½″ high, 11/16″ diameter with ¼-28 thread.



No. D26 Universal Back



360° Turns

180° Arc

## Universal Back

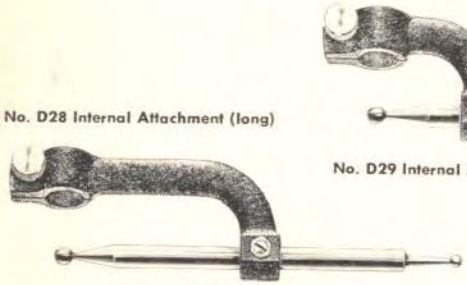
The ball joint construction permits 180° arcs and 360° turns for unlimited range of indicator settings. The single knurled thumb nut controls the universal movement permitting the indicator point to be set instantly. A cupped fiber washer is compressed against the ball joint by tightening the knurled nut; this clamps the indicator securely and firmly in the desired position. The ball joint has a ¼-28 thread to take round, square or any other type shank.

No. **D26** For class 2 indicators only.

No. **D261** For class 1 indicators only.

# Dial Indicators

## Accessories



No. D28 Internal Attachment (long)

No. D29 Internal Attachment (short)

No. D30 Right Angle Attachment

### Internal Attachment

For use in checking and testing internal and other surfaces that are not accessible with regular spindle. Will measure holes to depth of $1\frac{11}{16}$". Has adjustable pivot screws. Will fit all indicators with AGD $\frac{3}{8}$" stem No. D29 Internal Attachment similar to D28 except will measure holes to depth of $\frac{13}{16}$".

No. **D28** Internal Attachment (long)
No. **D29** Internal Attachment (short)

### Right Angle Attachment

For checking shoulders and places impossible to reach with the regular internal attachment or indicator spindle.
No. **D30** Right Angle Attachment

Tolerance Plate

Long Stem Indicators

Neoprene Dust Guard

### Tolerance Plate

Superior to tolerance hands on long run checking. Operator need look only for indicator hand to appear in the open space eliminating need for extra hands on dial face. Since operators cannot see how much over or under size the piece may be, there is no chance of operator passing work which is just outside of tolerance specified. Maximum opening is 50% dial visibility. Using an indicator with the proper graduations, any tolerance can be set.

### Long Stem Indicators

Many set up applications require indicators with stems longer than are furnished on regular indicators. We are prepared to furnish long stems on all indicators. Prices on request.

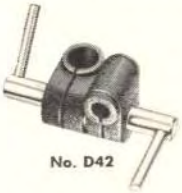
### Neoprene Dust Guard

A useful attachment for your indicator where it is used around coolants, oil and dusty conditions. Made of oil resistant neoprene.
No. **D70** Dust Guard.

# Dial Indicators

## Accessories

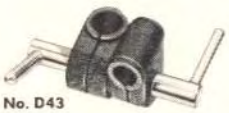
No. D40



No. D42

No. D44

No. D41

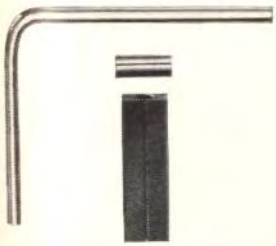


No. D43

### Swivel Joints

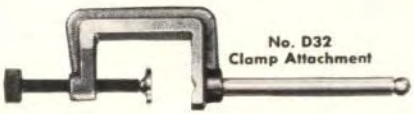
Easily adjusted, snug fitting joints that clamp the set up firmly in position. Can be positioned to any desired angle quickly to speed set-up time for accurate gaging.

No. **D40**—$\frac{5}{16}$ x $\frac{5}{16}$" Swivel Joint
No. **D41**—$\frac{5}{16}$ x $\frac{3}{8}$" Swivel Joint
No. **D42**—$\frac{5}{8}$ x $\frac{3}{8}$" Swivel Joint
No. **D43**—$\frac{5}{8}$ x $\frac{1}{2}$" Swivel Joint
No. **D44**—1 x $\frac{3}{4}$" Swivel Joint



Tool Post Holder

Holding Rods



No. D32
Clamp Attachment

### Tool Post Holder

Tool post holder is $\frac{1}{2}$ x 1 x 3" for $\frac{3}{8}$" diameter straight holding rod or right angle holding rod. The $\frac{5}{8}$" to $\frac{3}{8}$" reducing bushing is for use with $\frac{5}{8}$" swivel joints.

No. **D46** Tool Post Holder

### Clamp Attachment

Malleable Iron Body 1$\frac{3}{8}$" capacity with $\frac{5}{16}$" diameter, 5" long upright rod. No. D33 similar to above except furnished with $\frac{3}{8}$" diameter rod 5" long.

No. **D32** Clamp Attachment with $\frac{5}{16}$" rod

No. **D33** Clamp Attachment with $\frac{3}{8}$" rod

### Holding Rods

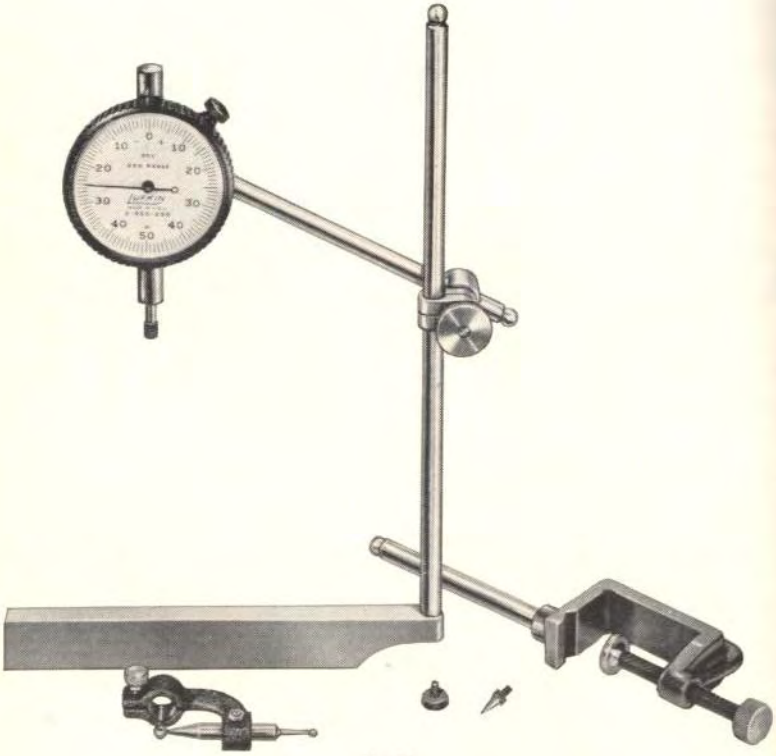
Rigid holding rods in accurate diameters for snug fit in swivel joints. Lengths for practical work requirements.

No. **D60**—$\frac{5}{16}$ x 6" holding rod
No. **D61**—$\frac{3}{8}$ x 7$\frac{1}{2}$" holding rod
No. **D62**—$\frac{1}{2}$ x 8" holding rod
No. **D63**—$\frac{3}{4}$ x 8" holding rod

Longer length rods can be furnished. Prices on request.

# Dial Indicators

## Test Set



No. D1

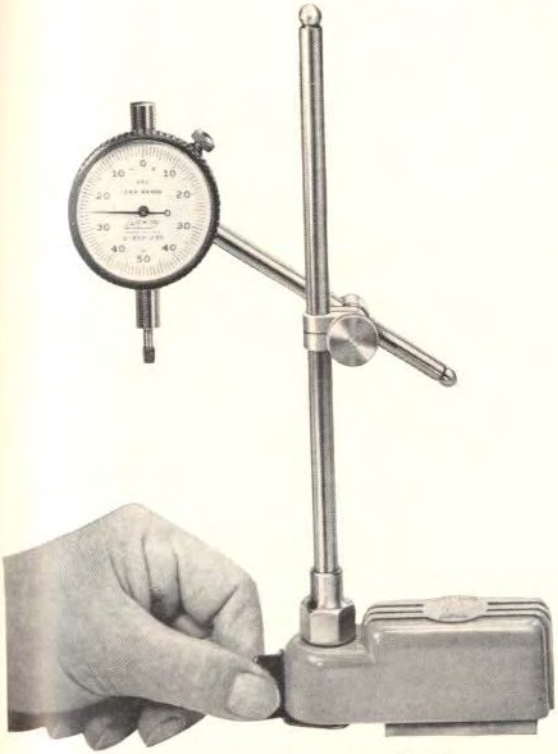
A complete Precision checking unit for Machinists, Toolmakers and Inspectors. The above set consists of: Lufkin Dial Indicator 2-B50-250, graduated in thousandths; balanced dial 0-50-0 with a total range of .250". Indicator furnished with Universal back. Three contact points; regular, taper and button. One internal attachment for test surfaces that cannot be reached by regular point. One Tool Post Holder 6 x ¾ x ⅜" threaded to take upright spindle. One spindle 5/16 x 9". One 5/16 x 5/16" Holding Swivel. One Rod 6" long threaded to fit Universal Back. One clamp 1⅜" capacity for attaching to flats, arbors, etc.

*Packed in a Sturdy Box.*

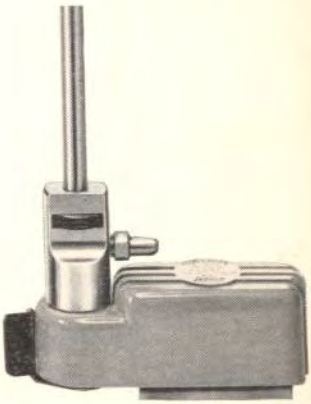
No. **D1** Dial Indicator Test Set.

# Dial Indicators

## Magnetic Base Test Sets



No. D5



No. D6

A very desirable tool for toolmakers, machinists, inspectors, set-up men for fast, precision checking. The compact base has a 100 lb. pull permanent magnet that is quickly and easily positioned on flat or round surfaces. Cumbersome and time consuming clamping is eliminated. Finger-tip release of magnet for release or repositioning without jarring the indicator. Furnished with holding rod $\frac{5}{16}$ x 6″; adjustable swivel joint with $\frac{5}{16}$ x $\frac{3}{8}$″ holes; indicator No. 2-B25-125-5 reading 0-25-0 range .125″, graduated .0005″. Packed in sturdy box.

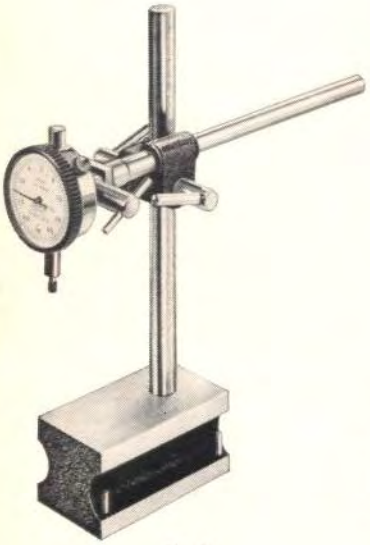
No. **D5** Magnetic Base Indicator Test Set.

No. D6 set is similar to above except holding rod is furnished with fine height adjustment. Holding rod has ½″ vertical adjustment under tension to hold setting. Rod does not rotate. Turning a single knurled thumbnut adjusts base quickly within a ½″ range. Quick vertical adjustment for faster final setting of the indicator without disturbing the base, swivel joint or indicator. Packed in sturdy box.

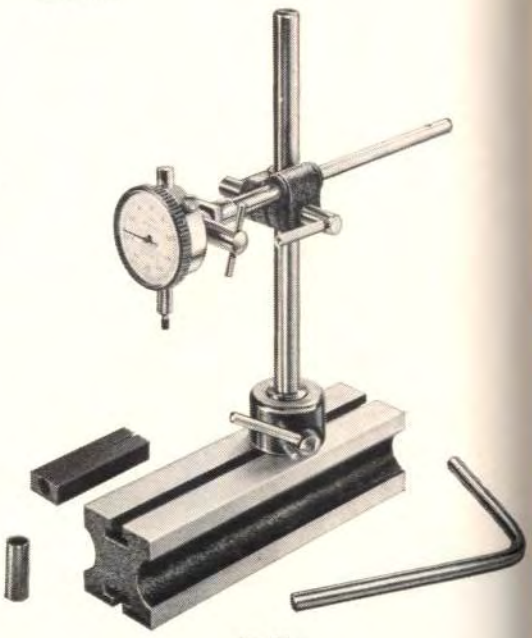
No. **D6** Magnetic Base Indicator Set.

# Dial Indicators

## Test Sets



No. D2



No. D3

### No. D2

A short base test set stand for surface plate work, checking runout of lathe work, and for use on milling machines. Solid upright and indicator rod is of sturdy construction to hold any indicator securely for accuracy. Has four friction pins in base to permit sliding along "T" slots or edge of surface plates.

Test set No. D2 includes: One 2-B25-125-5 Dial Indicator; graduated .0005″; range .125″ reading 0-25-0. One holding rod 8 x ½″. One ½ x ⅝″ holding swivel.

The base is 4″ long 2 3/16″ wide, 2″ high with ⅝″ diameter upright. 9″ long. Packed in sturdy box. Weight 4½ lbs.

No. **D2** Dial Indicator Test Set.

### No. D3

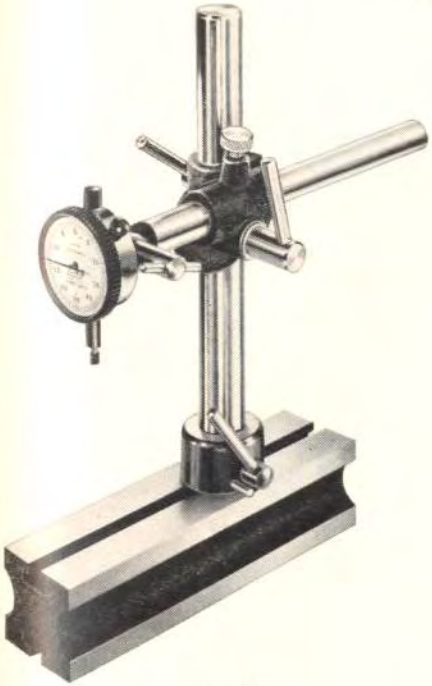
This is an excellent set for machinists, set-up men and others where adaptability for all types of work is an advantage. The ⅝″ diameter upright, 10″ high has the new *Eccentric Lock*. This permits the upright to be loosened quickly and tightened securely. The upright may be turned 360° permitting the indicator to swing out of the way when the lock is loosened. Working parts of the lock are hardened for long life and designed to hold the upright without play. Indicator and swivel can be easily removed from the upright without disassembly.

Test set No. D3 includes: One 2-B25-125-5 Dial Indicator, graduated .0005″, range .125″, reading 0-25-0. One ⅜ x 7½″ holding rod. One ⅜ x ⅝″ holding swivel. One ⅝ x 10″ upright rod with new eccentric base lock. Base is 8¼″ long, 2 3/16″ wide, 2″ high with "T" slots top and bottom. One tool post holder ½ x 1 x 3″ with ⅜″ hole. One ⅜″ diameter right angle rod. One ⅝″ to ⅜″ reducing bushing. Packed in a sturdy box.

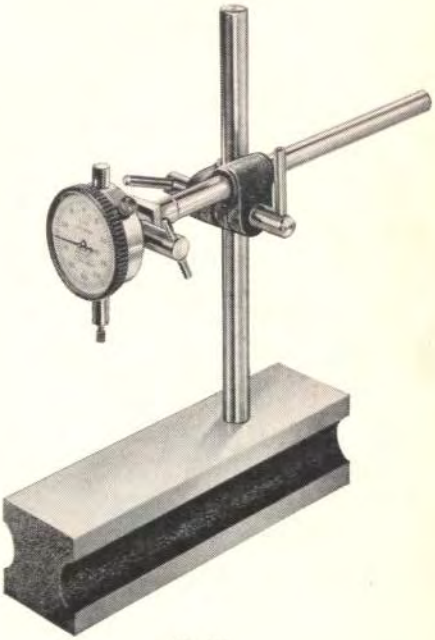
No. **D3** Dial Indicator Test Set.

# Dial Indicators

## Test Sets



No. D4



No. D7

### No. D4

An extremely rigid test set providing the highest degree of accuracy. The solid indicator holding rod and upright eliminate deflection. The *eccentric lock* clamps the upright assembly securely to the base. This upright assembly can be removed from the base as a unit. This is quite a feature since the indicator, clamp, swivel unit, etc., do not have to be removed when changing jobs. Eccentric does away with wear on threads when clamping. The swivel may be removed from the top of the rod.

Test set D4 includes one No. 2-B15-075-5 dial indicator graduated .0005", range .015", reading 0-15-0. Upright rod 1 x 10". One holding rod ¾ x 8". One 1 x ¾" holding swivel with separate adjustments permitting adjustments to be made without disturbing other settings. Base is 8¼" long, 2 3/16" wide, 2" high with T slots top and bottom. Packed in sturdy box.

No. **D4** Dial indicator test set.

### No. D7

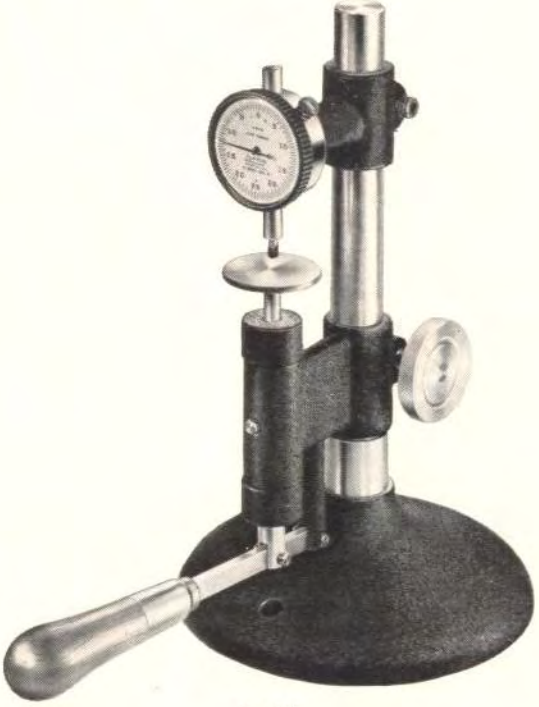
The solid ⅝" diameter upright with a ½" diameter indicator holding rod together with an 8" long ground base make this set extremely useful to machinists' or set-up men, but it may also be used as a comparator during production uses. The sliding swivels with separate vertical and horizontal adjustments simplify setup.

Test set No. D7 includes: One 2-B25-125-5 dial indicator, graduated .0005", range .125". Reading 0-25-0. One 8 x ½" holding rod, one ⅝ x ½" holding swivel. Base is 8¼" long, 2 3/16" wide, 2" high with ⅝" diameter upright rod, 9" long. Packed in a sturdy box.

No. **D7** Dial Indicator Test Set.

# Dial Indicators

## Production Bench Gage



No. D11

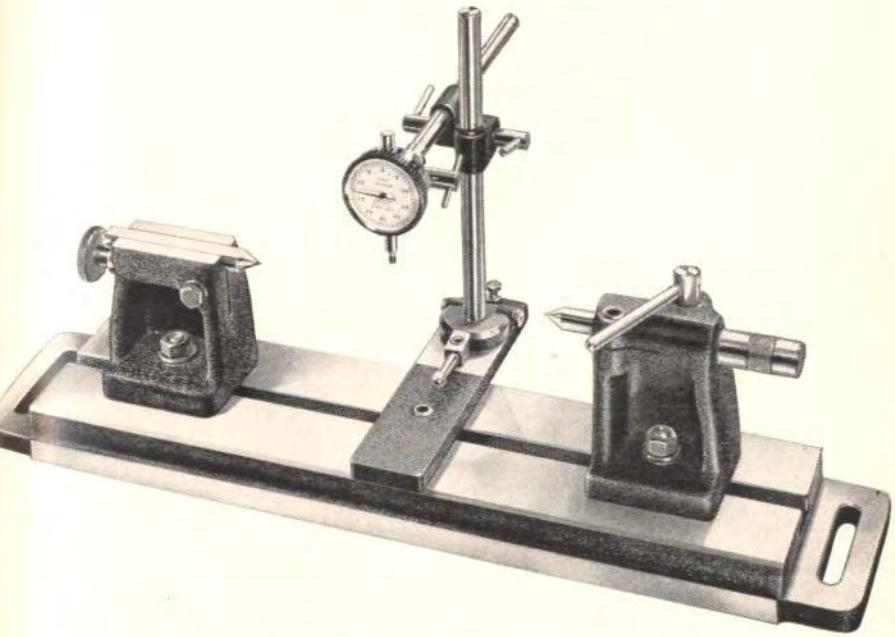
A Bench Gage designed for quick production checking of parts in large or small quantities. Convenient hand lever quickly lowers table to permit entrance of work. Spring return against a positive stop gives accurate repeat reading. The movement of the table does away with lifting the indicator for work clearance—saving wear on the indicator.

Specifications: Indicator No. 2-B25-125-5 (other indicators may be substituted—add or subtract the difference in the price of the indicator).
Column: 1″ diameter, 9″ long
Table: $1\frac{13}{16}$″ diameter, hardened steel
Maximum throat capacity: $2\frac{3}{16}$″ from column to center of table.
Travel of table: .300″
Maximum capacity: $1\frac{3}{8}$″
Weight: $14\frac{1}{2}$ lbs.

No. **D11** Production Bench Gage.

# Dial Indicators

## Bench Center Set



A complete low priced unit made up of a Lufkin Dial Indicator with slide having a tip-over upright—combined with a Bench Center Unit. Large diameter upright and indicator holding rod provide a sturdy support for the indicator. Upright may be *tipped* backward to permit loading, straightening or adjusting of work . . . This speeds production and maintains zero setting. Upright is locked in place quickly with positive return to same position. Unit is portable and requires little bench space. Lever operated, spring actuated tailstock spindle has ¾" travel and position lock; screw tailstock spindle has ¾" travel and can be locked in position. Both tailstocks can be set to any location along the base and each has a position lock. The indicator may be fitted with the internal attachment arm for checking holes or recesses; or the right angle attachment arm may be used for checking shoulders and faces of work for run-out.

*SPECIFICATIONS*

Maximum Capacity between centers 11 1/16"

Maximum Capacity diameter of work over bed 8"

Maximum Capacity diameter of work over slide 7"

Upright Rod ⅝" diameter, 9" long

Indicator Holding Rod ½" diameter, 8" long

Sliding Swivel with separate vertical and horizontal adjustment ⅝" x ½"

No. 2-B25-125-5 Dial Indicator Graduated .0005" balanced dial 0–25–0, Range, .125"

Length of Bed 20¾"

Net weight 49 lbs.

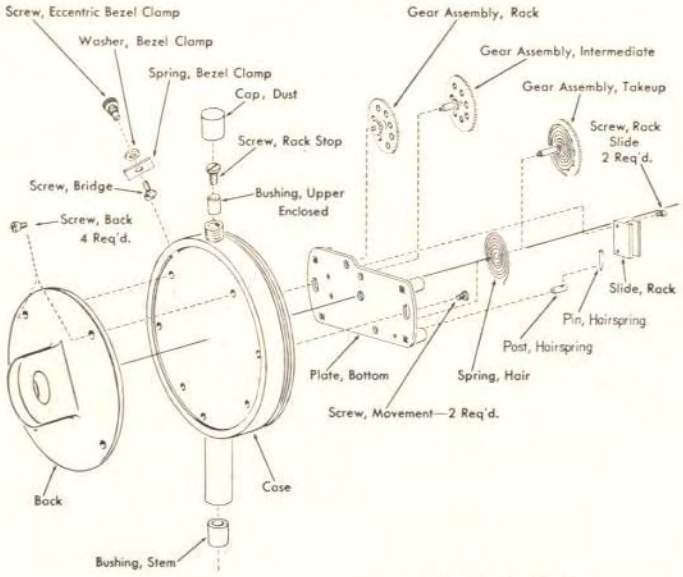
No. **D12** Bench Center Set.

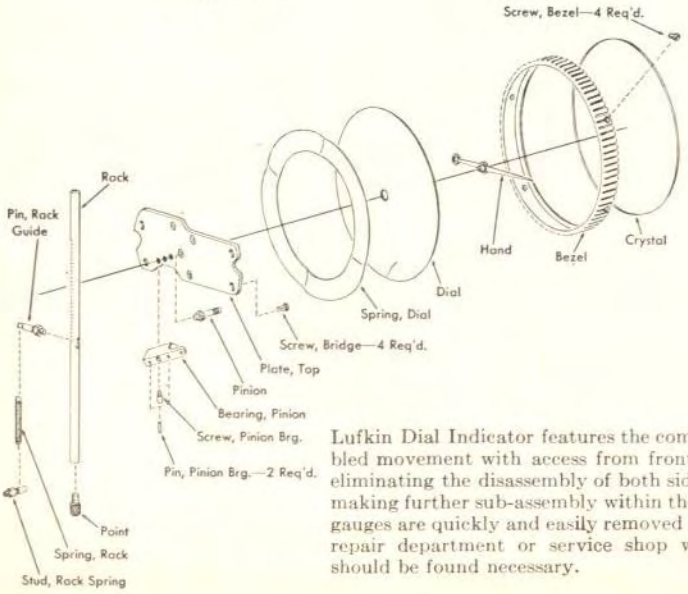


FOR PRICES SEE PRICE LIST

# Dial Indicators

## Repair Parts List



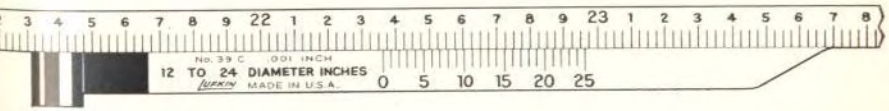

Lufkin Dial Indicator features the complete assembled movement with access from front of the case eliminating the disassembly of both sides of case or making further sub-assembly within the case. These gauges are quickly and easily removed by any plant repair department or service shop when repairs should be found necessary.

# Vernier Diameter Tape


he Vernier Diameter Tape measures true diameters of both round and out-of-round forms to e nearest .001 inch. It eliminates the need for several outside caliper measurements, which en have to be averaged to determine the true diameter.

ufkin 39 Series Vernier Diameter Tapes are made from special analysis spring steel. The markings e machine divided, etched and black-filled . . . precisely graduated like a precision tool or rule.

o use, merely wrap tape around form to be measured with vernier scale alongside the tape scale. ake tape reading to the left of "0" on the vernier scale and add the reading on the vernier scale here the vernier line coincides with a line on the tape scale. The total will be the true diameter the nearest .001".




Above Reading: 22.000
.300
.050
.012
22.362

## SPECIFICATIONS

**Tape Width:** Body ⅝"; Graduated Sections, 5/16".

**Thickness:** .010 Inch.

**Graduated:** Tape Scale in diameter inches (1.000") to tenths (.100") and fortieths (.025"). Vernier Scale into 25 divisions (.001").

**Packed:** One each in metal reel-type container per box.

| Number | Range Dia. In. |
|---|---|
| 39A | 1" to 7" |
| 39B | 2" to 12" |
| 39C | 12" to 24" |
| 39D | 24" to 36" |
| 39E | 36" to 48" |
| 39F | 48" to 60" |
| 39G | 60" to 72" |
| 39H | 72" to 84" |
| 39J | 84" to 96" |
| 39K | 96" to 108" |
| 39L | 108" to 120" |
| 39M | 120" to 132" |
| 39P | 132" to 144" |



FOR PRICES SEE PRICE LIST

# No. 59 Master Precision Levels

## Precision Alignment is Essential to Present Day Production

For machine shops, inspection, millwright departments, tool rooms to accurately set, erect, test machinery and surface plates to avoid wear and prolong life of bearings and spindles.

Accurately ground and graduated vial of 10 second accuracy; one division equals .0005-inch per foot. An auxiliary level to aid setting true horizontal, showing position laterally. Unusually fine threads on adjusting screw for sensitive, accurate adjustment. Level vials set for maximum protection against breakage; once set, tampering is avoided by foolproof adjustment.

Casting thoroughly seasoned, working surface machined and scraped with extreme care. Base casting made of special alloy iron which is less affected by temperature changes.

Top plate is made of a special non-conductive insulating material.

Non-machined surfaces have durable black crackle finish.

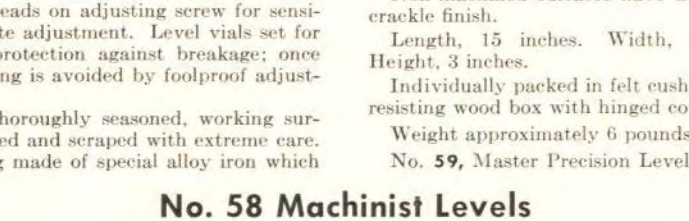
Length, 15 inches. Width, 1½ inches. Height, 3 inches.

Individually packed in felt cushioned, shock resisting wood box with hinged cover.

Weight approximately 6 pounds.

No. **59,** Master Precision Level.

# No. 58 Machinist Levels



Shallow V in base with clearance cut is preferred by mechanics and machine setters because better surface contact is obtained on various sizes of shafting.

Adjusting level simplified through micrometer type threads (40 threads per inch) on adjusting screw and nuts. Bubble can be positioned gradually for perfect setting.

Main level glass additionally protected by outer metal tube that can be turned to expose level glass or turned to protect it when not in use.

Cross level besides main parallel vial for more accurate reading as level positions true horizontally and parallel. Fine seasoned castings insure strength and rigidity. No. 58 series levels have ground and graduated main vial, 60 second sensitivity with 1/10 inch graduation to read .0035 inches per foot. Ground glass vials are more sensitive and accurate and are used in the finest surveying instruments.

Finished wood box with hinged cover and clasp available for level sizes 12 and 18-inch only.

| Size Inches | No. **58** Level Equipped with |
|---|---|
| **6** | Ground and Graduated Main Vial and Plain Cross Level |
| **8** | Ground and Graduated Main Vial and Plain Cross Level |
| **12** | Ground and Graduated Main Vial, Plain Cross Level and Plumb |
| **18** | Ground and Graduated Main Vial, Plain Cross Level and Double Plumb |

Finished wood box only for 12-inch level.

Finished wood box only for 18-inch level.

Packing: One in a Carton.

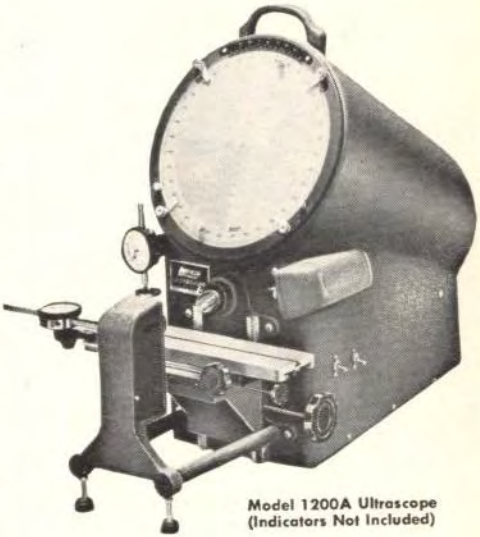
***FOR PRICES SEE PRICE LIST***

# Ultrascope Optical Comparator

The ULTRASCOPE Optical Comparator ombines low initial cost and portability to ermit inspection with optical comparator ccuracy anywhere in the plant. It can be rofitably used for quality control at every tep of production and assembly lines.

The economical cost and ease of operation of he ULTRASCOPE, now make it possible to se the faster, more accurate optical com- arator inspection in plants and installations hat could not justify the investment of the arger, more complicated, "tool room" optical omparators.

The Model 1200A ULTRASCOPE is prac- ically designed. Ruggedly built to exact olerances, it offers a lens system that gives brilliant, sharp image that is uniform, with- ut measurable distortion, to very edge of he screen. Its Surface Illuminator—consist- ng of a lamp housing with a projection lamp, condensing lens and the 45° half-reflecting nirror that may be used with all lenses ex- ept 10X—permits inspection and precise neasurement of surface detail Light from he condensing lens is reflected by the 45° alf-reflecting mirror to the surface to be nspected. This brightly illuminated surface s reflected into the optical system and ap- pears as a magnified image on the viewing screen. Shipping weight, 20 pounds.



Model 1200A Ultrascope (Indicators Not Included)

## Model 1200A Ultrascope with Surface Illuminator

## ACCESSORIES

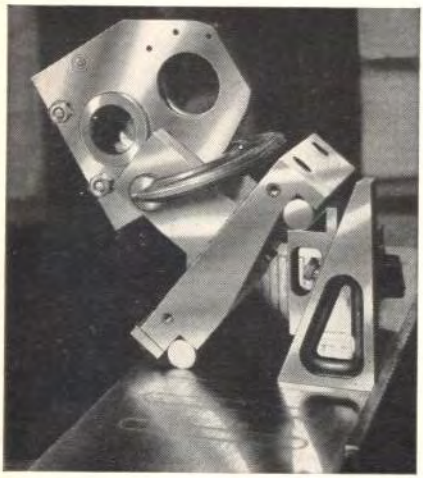
| Number | Item | Number | Item |
|---|---|---|---|
| 1200V | Standard Screen | 1200-10X | 10 Power Lens |
| 1200R | Radius-Grid-Angle Screen | 1200-20X | 20 Power Lens |
| 1200S | Micro Radius Screen | 1200-31-1/4X | 31-1/4 Power Lens |
| 1200T | Tool Room Screen | 1200-40X | 40 Power Lens |
| 1200M | Blank Screen | | |



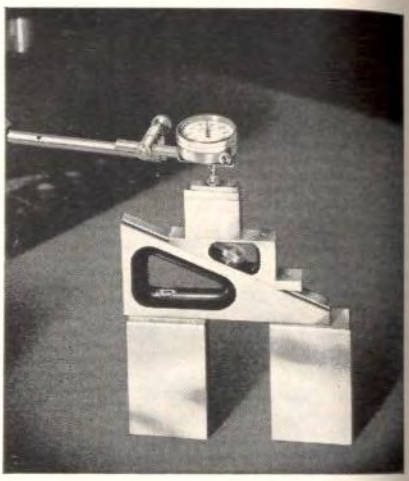
FOR PRICES SEE PRICE LIST

A Few of the Many Uses of

## No. 900 Master Planer and Shaper Gage

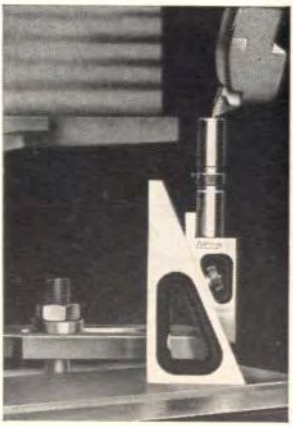


Used in Conjunction with Sine Bar in Grinding Angles



With Gage Blocks for Setting Up Work on a Surface Plate

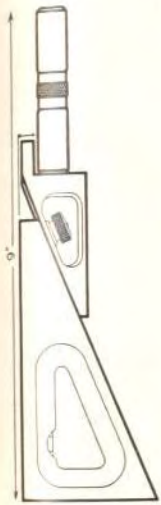
Gage Being Set to Micrometer Accuracy



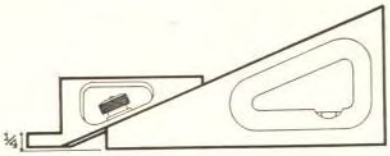
Used to Set Cutting Tool (Note Use of Extension Bar)

# No. 900 Master Planer and Shaper Gages

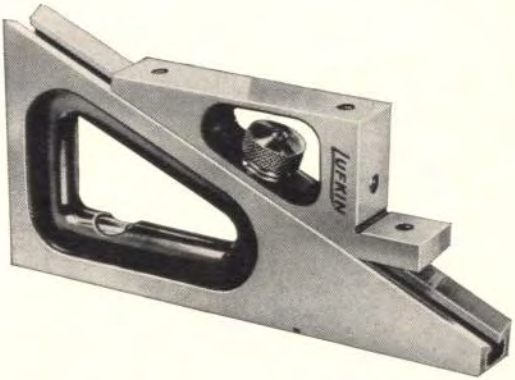
**Hardened and Ground**



**Position of Parts to Get Maximum Range, 9 Inches**



**Position for Smallest Setting, ¼-Inch**




This is known as a "Master" tool because it is designed and precision built, not only to serve better as a Planer Gage, but to properly handle many jobs for which the ordinary gage is unsuited.

A few of the many applications are: setting cutting tool on planer or shaper, saving time (set gage to size with micrometer, surface gage or caliper); using with gage blocks in building up work on surface plate; using with sine bar in grinding angles; using with indicator for transferring measurements; using as an adjustable parallel (upper face of slide being extra long, and slide and base accurately fitted).

Gage can be used on base, on end, also flat on either side, as both slide and nut are within outside width of base and both sides are ground square with working edges.

Slide and base are accurately fitted. Slot in which slide travels is beveled as well as ground, eliminating side play, assuring accuracy. All measuring surfaces are precision ground.

The 3-inch extension regularly supplied with each gage, makes possible tool settings from ¼ to 9 inches; without extension the range is ¼ to 6½-inches. A 1-inch extension that is handy for adding an even inch to the gage can be furnished when ordered.

Base and slide are of drop forged steel, hardened.

Base is ⅝-inch wide, 5¼-inches long and fitted with level. Slide has clamp nut securely locking it in position.

A genuine mahogany case in keeping with this fine tool, and the best protection for it, is supplied when ordered.

No. **900,** Master Planer & Shaper Gage (Including 3-Inch Extension)
Mahogany Case for above (Supplied only when ordered).
One-inch extension for No. 900 (Supplied only when ordered).
Each in One in a Box.



FOR PRICES SEE PRICE LIST

# No. 901 Master Planer Gage

## Big 1″ Wide Base—Two Accurate Levels—Range to 10¾″

901G

901F

901E


No. 901 Master Planer Gage with 901D attached

The Lufkin Master Planer Gage is a precision instrument with a full 1″ wide base, has greater stability and is easier to work with. In addition to the regular base level, it has an end level for using the gage vertically. Gage can also be used flat on its side, because all nuts and attachments are under 1″ O.D. All working surfaces and sides are accurately ground for parallelism and alignment. The step of the slide is a full 1″ square, can be used with standard gage blocks. With the offset attachment, this gage can be used down to 5/16″ below the base.

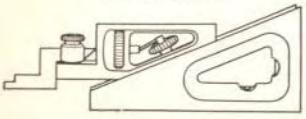
The Lufkin Master Planer Gage is 5¼″ long, with a range from ⅜″ to 7¾″ without attachments. The capacity is increased to 9¾″ with the 3″ extension and to 10¾″ with both extensions "V" ways and flats are accurately machined and precision ground to positively eliminate side play. The base and slide are hardened steel forgings.

The 3″ extension is included with each gage. A fitted mahogany case is also furnished unless otherwise specified. A so available are a 1″ extension, a straight scriber, a combination offset attachment and scriber, and the scriber holder. These attachments may be obtained individually or in sets.

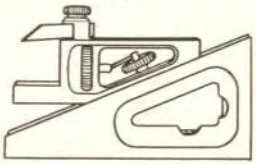
| Number | Description |
|---|---|
| 901 | 1″ wide Master Planer Gage with No. 901G 3″ extension |
| 901S | Set consisting of No. 901 Master Planer Gage and Nos. 901D, 901E, 901F, 910G attachments |
| 901B | Scriber Holder Attachment Only |
| 901C | Straight Scriber Only |
| 901D | Combination of 901B & 901C |
| 901E | Offset Scriber Only |
| 901F | 1″ Extension Only |
| 901G | 3″ Extension Only |
| 901 | Mahogany Case Only |

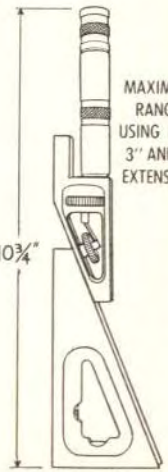
**NOTE:** Cases are furnished with 901 and 901S unless otherwise specified

WITH OFFSET ATTACHMENT . . . . USED FOR SETTING IN NARROW PLACES OR REVERSED AND USED AS A SCRIBER



WITH STRAIGHT SCRIBER ATTACHED






FOR PRICES SEE PRICE LIST

# No. 901A Master Planer Gage

## Big 1″ Wide Base—Rapid Adjustment—Fine Adjustment Range to 10¾″

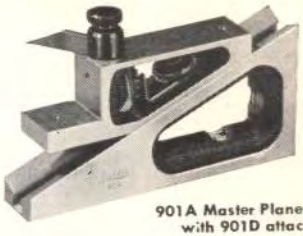

901G


901F


901B


901E


901C


901A Master Planer Gage with 901D attached

The all new Lufkin, 1″ wide, Master Planer Gage is a versatile, precision instrument. It may be used as a planer gage, or with the No. 901D Scriber and Holder as a surface or height gage. Other uses are for transferring settings with an indicator; as an adjustable parallel; for checking set-ups and layouts; and may be used with gage blocks or a sine bar.

The No. 901A Master Planer Gage has an exclusive rapid adjustment feature that permits quick setting and change of setting with ease. Just loosen the clamping nut, press on the nut and move slide to the desired position. A shoe in the "V" ways holds slide at the setting when the slight pressure is released. By retightening the knurled nut, the slide cannot be accidentally moved.

The No. 901A also has a fine adjustment feature permitting final, precise settings quickly and without tedious and annoying tapping of the slide. By just turning the knurled, fine adjustment nut, the slide will "creep" to the desired position.

These gages are 5¼″ long with a range from ⅜″ to 7¾″ without attachments. Capacity is increased to 9¾″ with the 3″ extension and to 10¾″ with both extensions. Gages can also be used 5/16″ below base with the offset attachment.

Bases are full 1″ wide, have greater stability, are easier to work with. Two accurate levels, the regular base level and an end level for using gage vertically. All nuts and attachments are under 1″ O.D. permitting use of gage flat on side. Working surfaces and sides are accurately ground for parallelism and alignment. The step on the slide is 1″ square, can be used with standard gage blocks. Machined and ground "V" ways and flats positively eliminate side play. Base and slide are hardened steel forgings.

The 3″ extension is included with each gage. A fitted mahogany case is also furnished unless otherwise specified. Also available are a 1″ extension, a straight scriber, a combination offset attachment and scriber, and the scriber holder. These attachments may be obtained individually or in sets.

| Number | Description |
|---|---|
| **901A** | 1″ wide Master Planer Gage with rapid adjustment, fine adjustment and No. 901G 3″ extension |
| **901AS** | Set, consisting of No. 901A Master Planer Gage and Nos. 901D, 901E, 901F, 901G attachments |
| **901B** | Scriber Holder Attachment Only |
| **901C** | Straight Scriber Only |
| **901D** | Combination of 901B & 901C |
| **901E** | Offset Scriber Only |
| **901F** | 1″ Extension Only |
| **901G** | 3″ Extension Only |
| **901** | Mahogany Case Only |

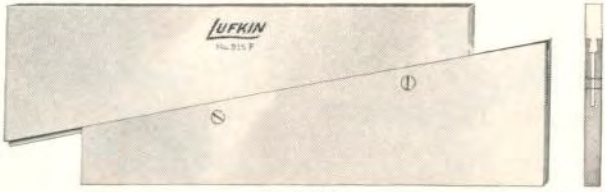
NOTE: Cases are furnished with [illegible] unless otherwise specified.



FOR PRICES SEE PRICE LIST

# No. 915 Adjustable Parallels

No. 915C



No. 915F End View

These parallels have many applications in layout, gaging, spacing and checking work by toolmakers and mechanics; often used to determine or check width of slots and openings, also as spacers for locating parts for accurate assembly, and, set to determined size, serve as gages. They are used in a vise for setting work at proper height or angle for milling machine, shaper and planer; also for leveling work on planer, drill press, etc.

In some cases, they take the place of a number of one-piece parallels. Readily adjusted and locked to micrometer measurement. Screw locks firmly.

Offered individually or in sets in durable fitted cases.

No. 915L Set

| Parallel No. | Range Inches | Length Inches | Thickness Inches | No. Lock Screws |
|---|---|---|---|---|
| **915A** | 3/8–1/2 | 1 3/4 | 9/32 | 1 |
| **915B** | 1/2–11/16 | 2 1/8 | 9/32 | 1 |
| **915C** | 11/16–15/16 | 2 11/16 | 9/32 | 1 |
| **915D** | 15/16–1 5/16 | 3 9/16 | 9/32 | 2 |
| **915E** | 1 5/16–1 3/4 | 4 5/16 | 9/32 | 2 |
| **915F** | 1 3/4–2 1/4 | 5 1/16 | 9/32 | 2 |

| Sets of Adjustable Parallels in Durable Fitted Cases | | |
|---|---|---|
| Set No. | Range Inches | Contents |
| **915L** | 3/8–2 1/4 | 915-A, B, C, D, E, F |
| **915M** | 3/8–1 5/16 | 915A, B, C, D |

Packing: One Parallel or One Set in a Box.

# Pin Vises


**No. 1975, Set**

**No. 197B**

Lufkin Pin Vises are designed for holding small stock, drills, taps, scribers and small files. Dull nickel plated finish prevents glare.

The chuck is beveled both front and back. This feature gives longer bearing surface, a firmer grip, better centering and eliminates wobbling. A smooth bearing surface is provided at the chuck end to insure truer running when used in a collet or chuck. Jaws are hardened. The hole runs through the entire length of the vise permitting use of long rods and chucking at any desired point.

The hole will accommodate stock up to its full stated capacity of the vise. This tool is knurled at convenient locations, affording a firm grip. The knurled handle is smaller in diameter than the chuck permitting the tool to rotate rapidly between thumb and finger. No. 197A Pin Vise has 3 jaws in chuck, other sizes have four.

Pin Vises are available individually or in sets.

No. **197A,** Pin Vise, Capacity, 0 to .055 Inch.

No. **197B,** Pin Vise, Capacity, .025 to .075 Inch.

No. **197C,** Pin Vise, Capacity, .045 to .135 Inch.

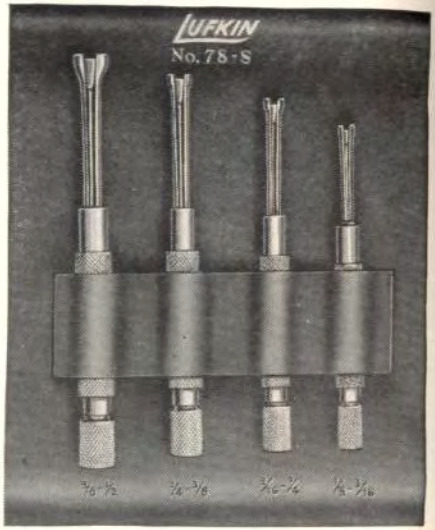
No. **197D,** Pin Vise, Capacity, .110 to .200 Inch.

No. **1975,** Set of Four Pin Vises in Red Fitted Case as Illustrated.
Contains One Each of Nos. 197A, B, C, and D.

Packings: Nos. 1[illegible] One in a Box. Set No. 1978 One in a Box.

# No. 78 Small Hole Gages

Design Permits Gaging Shallow Holes or Grooves




Complete Set No. 78S, Range ⅛ to ½-Inch

Ideal for measuring diameter of small hole or width of slot or groove that is below the 5/16-inch range of Lufkin Telescoping Gages No. 79AA.

The radius of the contact end is always less than that of the hole being measured, thereby making only a two-point contact.

Ball end is flattened off close to center line, which permits gaging holes and shallow recesses.

Provision also is made whereby travel of expanding cone is stopped at both extreme open and closed limits of gage, preventing breakage.

Made of special analysis steel with hardened contact faces. Left hand thread.

Size of handles are in proportion to size of gage, affording proper balance essential to accurate measurement.

To operate, simply insert contact end of proper size gage in hole or groove, turn knurled knob until right "feel" is obtained. Then measure over contact faces with an outside micrometer.

Available individually or as complete set in an attractive and durable fitted case.

| No. | Length Inches | Diameter Range, Inches | No. 78S Set in Fitted Case | |
|---|---|---|---|---|
| | | | Contents | Range, Inches |
| 78A | 2 13/16 | 1/8 to 3/16 or .125 to .187 | Nos. 78A, B, C and D | 1/8 to 1/2 |
| 78B | 3 1/8 | 3/16 to 1/4 or .187 to .250 | | |
| 78C | 3 3/8 | 1/4 to 3/8 or .250 to .375 | | |
| 78D | 3 7/16 | 3/8 to 1/2 or .375 to .500 | | |

Packing: One Gage in a Box; 4 in a Carton.
No. 78S Set, One in a Box.

FOR PRICES SEE PRICE LIST

# Telescoping Gages

(Patented)

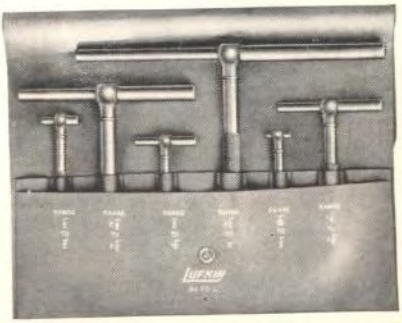

Gage Extended Handle in Center

Gage Closed Handle in Center

Handle of Self-Centering Telescoping Gage, pioneered by Lufkin, locks at center of plunger for feel needed for accuracy. Inside size of slots or holes is quickly and accurately obtained; even down to 5/16-inch, smaller opening than obtained by any other gage of this type. Measurement of gage down to one thousandth of an inch less found by outside micrometer. Has handle and two plungers, one telescoping into other; both plungers under constant spring tension and locked by slight turn of knurled screw in end of handle. Ends of plungers hardened and ground to radius, giving clearance in smallest opening gage enters. With these features any measurement within capacity of tool can be taken.

**Method of Use:** Compress plungers; lock by turning handle screw. Insert gage in hole, release lock; plunger expands to exact size of hole or slot with handle remaining in center. Lock plungers, remove gage, measure with outside micrometer.

**Note the Illustration Above, Showing One of the Valuable and Exclusive Features of Lufkin Telescoping Gages** Even though the gage is not fully extended, handle is at center of tool. Perfect balance and feel are retained for quick, accurate measurements.




**No. 79L Set**

| Gage No. | Range Inches | Sets in Red Fitted Case | | | |
|---|---|---|---|---|---|
| | | Set No. | Type | Range Inches | Contents |
| 79AA | 5/16–1/2 | | | | |
| 79A | 1/2–3/4 | | | | |
| 79B | 3/4–1 1/4 | | | | |
| 79C | 1 1/4–2 1/8 | 79L | Complete | 5/16–6 | 79AA, 79A, 79B, 79C, 79D, 79E |
| 79D | 2 1/8–3 1/2 | 79M | Small | 5/16–2 1/8 | 79AA, 79A, 79B, 79C |
| 79E | 3 1/2–6 | | | | |



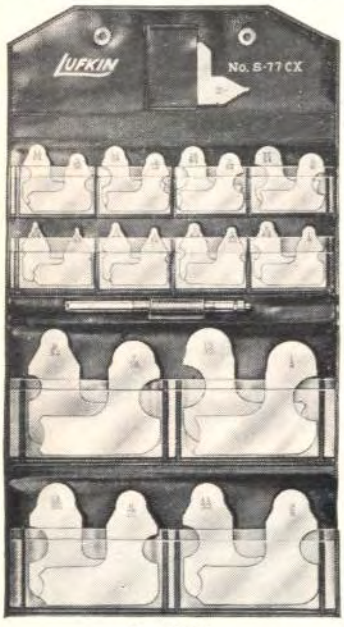
Packing: One Gage or Set in a Box.

FOR PRICES SEE PRICE LIST

# Nos. S77 Radius Gages

## Hardened Stainless Steel

Blades are made of stainless steel, hardened with accurate smooth edges. Hole in gage permits greater versatility.




No. S77CX

Finest Radius or Fillet Gage pioneered by Lufkin; for tool, die, pattern makers, templet layout men, screw machine operators, and other mechanics.

Outstanding features: Each blade or gage is a separate unit for convenient, accurate use on work; has corresponding external and internal forms, the practical combination; accurate, smooth edges. Each steel blade or gage marked prominently with its radius; all gages in set in attractive durable red fitted case for proper protection and simple, easy selection of each.

No. 75 Holder

**No. 75.** Radius-Gage Holder. A handy tool, 4½ in. long for holding blades. End section can be turned to any angle up to 90° for gaging in awkward locations. Screw in end of holder holds blade securely.

| Set No. | No. of Gages | Radii, Inches |
|---|---|---|
| **S77A** | 16 | 1/32–17/64 by 64ths |
| **S77AX** | 17 | 1/64–17/64 by 64ths and No. 20 Holder |
| **S77B** | 8 | 9/32–½ by 32nds |
| **S77C** | 24 | 1/32–17/64 by 64ths; 9/32–½ by 32nds (Set Nos. 77A and 77B Combined) |
| **S77CX** | 25 | 1/64–17/64 by 64ths; 9/32–½ by 32nds (Set Nos. 77AX and 77B Combined) and No. 75 Holder |
| **S77D** | 16 | 1/32–½ by 32nds |
| **S77E** | 8 | 9/16–1 by 16ths |
| **S77F** | 8 | 1½–2 by 8ths |
| **S77G** | 16 | 1½–2 by 16ths |
| **75** | .. | Holder only |

### Extra Blades or Gages Only

Available in following sizes: 1/64 to 17/64, by 64ths—1/32 to ½, by 32nds—1/16 to 1", by 16ths.

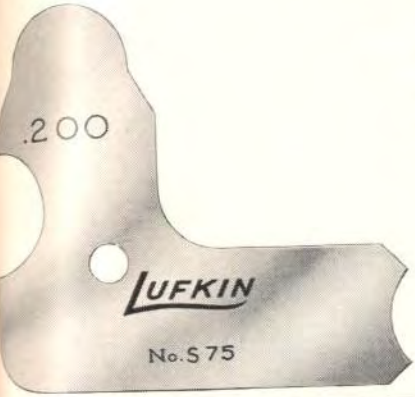
Packing: One Set in a Box.

### No. 20 Radius Gage Holders

Length of 4 inches permits gaging in small and out of way places. Knurled locking nut locks blade securely in holder in 30° or 45° slot at any place on blade.

# No. S75 Decimal Radius Gage

**Hardened Stainless Steel**




Each blade has the size radius clearly stamped and checks five types of radii—inside corners, outside corners, concave circle, convex circle and convex surface.

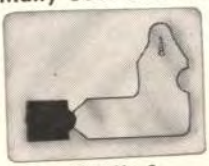
Blades are made of stainless steel, hardened with accurate, smooth edges. Sets are packaged in handsome, red vinyl, folding cases with individual transparent pockets for each blade. Handle is 4½" long for gaging into small or out-of-way places. End section can be turned to any angle up to 90° for accurate gaging in awkward locations,—permits placing blade perpendicular to surface checked every time. Screw in end of handle securely attaches blade.

| Set Number | No. of Gages | CONTENTS |
|---|---|---|
| S75A | 18 | .010, .015, .020, .025, .030, .040, .050, .060, .070, .080, .090, .100, .120, .140, .160, .180, .200, .220 blades in red vinyl case. |
| S75AH | 18 | Same as 75A Set, but with No. 75 Holder. |
| S75C | 26 | Combination of 75A and 75B Sets complete in one red vinyl case. |
| S75CH | 26 | Combination of 75AH and 75B Sets complete in one red vinyl case. |
| S75E | 10 | .550, .600, .650, .700, .750, .800, .850, .900, .950, 1.000 in red vinyl case. |
| | | Radius Gage Blades only |
| | | .010" to .220" |
| | | .240" to .500" |
| | | .550" to 1.000" |
| 75 | | Holder only |

## A Few of the Many Uses of Lufkin Radius Gages

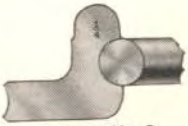
View No. 1

View No. 2



View No. 3

View No. 4



View No. 5

**View No. 1:** Gage determining radius of inside corners or fillets for ¼ or less of a circle. Straight sides at 90° for checking location of radius.

**View No. 2:** Gage determining radius of outside corners. Also shows whether sides are at 90° and tangent to circle.

**View No. 3:** Work being checked on a piece of glass; checks any other convex parts, where radius is ¼ or more of circle, that have projections which will not permit the use of gage as in Views 2 and 5.

**View No. 4:** Gage used on concave cutter of ½ or less of circle; usable for checking radius in View No. 1, but will not show relation of radius to sides.

**View No. 5:** Checks ½ of a circumference.

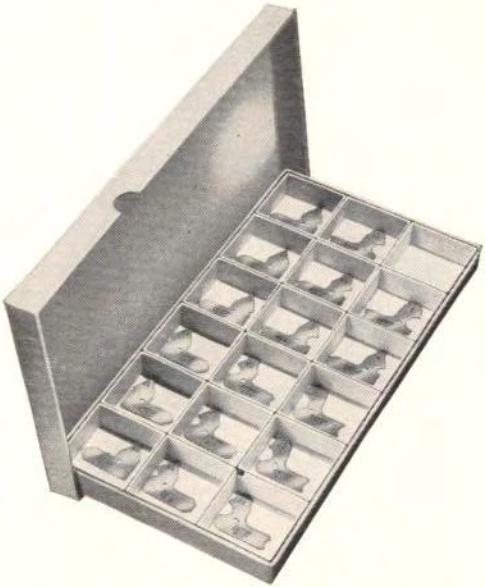


FOR PRICES SEE PRICE LIST

Memorandum

# Radius Gage Assortments

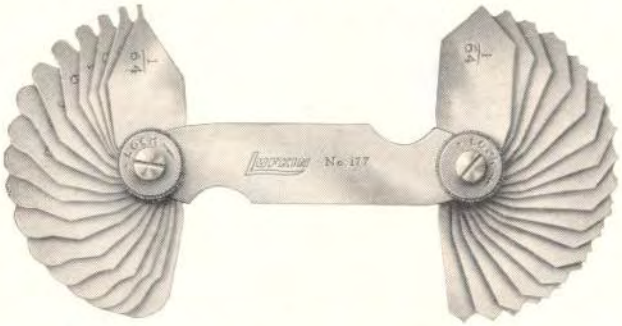
## Stainless Steel



A convenient method for storing and stocking individual radius gages. Assortment contains 2 each of the following size gages: 1/64, 1/32, 3/64, 1/16, 5/64, 3/32, 7/64, 1/8, 9/64, 5/32, 11/64, 3/16, 13/64, 7/32, 15/64, 1/4 and SB17/64.
Available in regular steel or hardened stainless steel.

No. **5771** Hardened Stainless Steel Assortment

## No. 177 Radius Gage

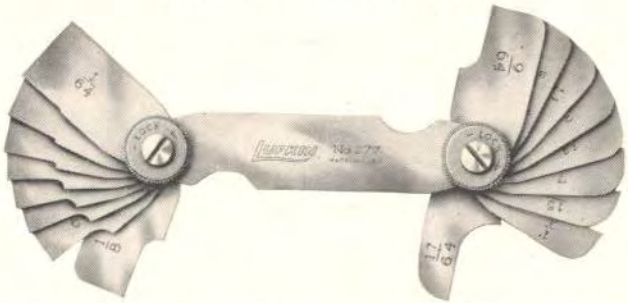



A companion tool to our popular No. 77 series Radius Gage. This gage contains leaves adapted for convex and concave gaging. A very useful tool for pattern makers, die makers, layout men and mechanics. The leaves of Lufkin Radius Gages are correctly designed to give the full and true radius. Each blade is prominently marked with its radius.

The case is of ample size to give the leaves full protection. Lufkin Radius Gages are equipped with a lock which will firmly lock any one leaf in position or all the leaves in the case.

| No. | No. of Leaves | Radii, Inches |
|---|---|---|
| **177** | 34 | $\frac{1}{64}$ through $\frac{17}{64}$ by 64ths |
| **177A** | 30 | $\frac{1}{32}$ through $\frac{1}{4}$ by 64ths |
| **177B** | 16 | $\frac{9}{32}$ through $\frac{1}{2}$ by 32nds |

## No. 277 Radius Gage




This gage is similar in design to No. 177, but is used for determining radius of fillets, inside and outside corners. A very useful tool for pattern makers, die makers, layout men and mechanics. The leaves of Lufkin Radius Gages are correctly designed to give the full and true radius. Each blade is prominently marked with its radius.

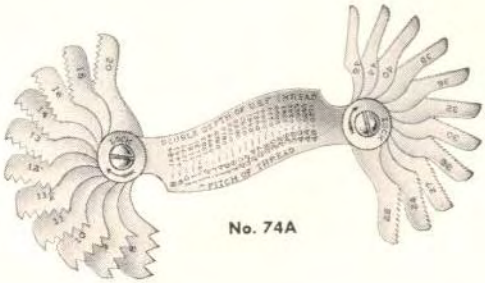
The case is of ample size to give the leaves full protection. Lufkin Radius Gages are equipped with a lock which will firmly lock any one leaf in position or all the leaves in the case.

| No. | No. of Leaves | Radii, Inches |
|---|---|---|
| **277** | 17 | $\frac{1}{64}$ through $\frac{17}{64}$ by 64ths |
| **277A** | 16 | $\frac{1}{32}$ through $\frac{17}{64}$ by 64ths |
| **277B** | 8 | $\frac{9}{32}$ through $\frac{1}{2}$ by 32nds |

Packing: One in a Box; Three in a Carton.

**FOR PRICES SEE PRICE LIST**

# Screw Pitch Gages



No. 74A

A Screw Pitch Gage is used to determine the pitch or number of threads per inch. The blades are cut deeply, with the tops of the teeth flatted. Lufkin Screw Pitch Gages can be used on V and American National or U.S. Standard threads. The blades are correctly designed permitting them to be inserted into a nut as well as obtaining pitches on outside threads on bolts, screws, etc. Each blade is marked with its pitch. Blades fold into compact case. The case is marked to show the double depth of American National or U.S. Standard thread. To obtain double depth of sharp V threads, for the same pitch, add ⅓ to the double depth given for American National or U. S. Standard.

Lufkin Screw Pitch Gages are furnished with a lock nut. Using the lock nut permits blades to be locked in desired position as well as locking blades in case. This feature eliminates chances of error and is especially desirable when one pitch is used repeatedly.

Formula for V thread

$$d = D - \frac{1.732''}{N}$$

Formula for American National or U. S. Standard thread

$$d = D - \frac{1.299''}{N}$$

| No. | No. of Pitches | Pitch |
|---|---|---|
| **74A** | 22 | 8, 9, 10, 11, 11½, 12, 13, 14, 16, 18, 20, 22, 24, 27, 28, 30, 32, 36, 38, 40, 44, 48 |
| **74B** | 24 | 4, 4½, 5, 5½, 6, 7, 8, 9, 10, 11, 11½, 12, 13, 14, 16, 18, 20, 22, 24, 27, 28, 30, 32, 36 |
| **74C** | 28 | 8, 9, 10, 11, 11½, 12, 13, 14, 16, 18, 20, 22, 24, 27, 28, 30, 32, 36, 38, 40, 44, 48, 50, 56, 60, 64, 72, 80 |
| **74D** | 28 | 3, 3¼, 3½, 4, 4½, 5, 5½, 6, 7, 8, 9, 10, 11, 11½, 12, 13, 14, 16, 18, 20, 22, 24, 27, 28, 30, 32, 36, 38 |

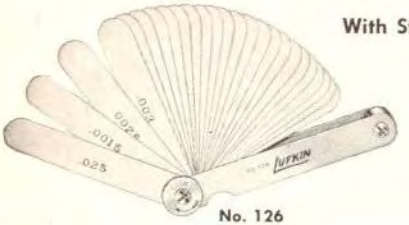
Packing: Three to a Carton.



FOR PRICES SEE PRICE LIST

# Thickness Gages

## With Straight Leaves




No. 126


No. 109

Thickness Gages (Feeler Gages) are used by toolmakers, machinists, etc., in jig and fixture work, making gages, experimental work and in manufacturing and servicing of automobiles.

The leaves of Lufkin Thickness Gages are made of tempered steel, ground to thickness. Each leaf is individually tested and clearly marked with its thickness. The leaves fold readily into a protective case and can be replaced easily. Leaves are 3 inches long and ½ inch wide.

The lock nut is another outstanding feature on these thickness gages. One or more leaves can be locked firmly in any position permitting easier insertions in openings and reducing chances of error. It also facilitates using the gage to its full extended length.

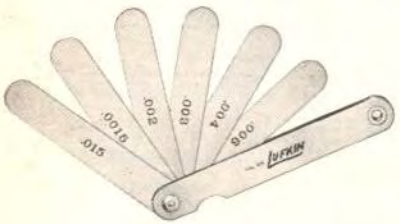
| No. | No. of Leaves | Thickness |
|---|---|---|
| **126** | 26 | .0015, .002, .0025, .003, .004, .005, .006, .007, .008, .009, .010, .011, .012, .013, .014, .015, .016, .017, .018, .019, .020, .021, .022, .023, .024, .025 In. |
| **122** | 22 | .004, .005, .006, .007, .008, .009, .010, .011, .012, .013, .014, .015, .016, .017, .018, .019, .020, .021, .022, .023, .024, .025 In. |
| **109** | 9 | .0015, .002, .003, .004, .006, .008, .010, .012, .015 In. |
| ***116M** | 16 | .04, .05, .06, .07, .08, .10, .15, .20, .25, .30, .35, .40, .45, .50 Mm. and Two Leaves of 1 Mm. Each |

*Combined thickness, 5 mm. Leaves approximately 12 mm. wide, 7½ cm. long.

Packing: One in a Box; Three in a Carton.

# No. 06 Thickness Gages

## With Straight Leaves




Our popular priced thickness gage. It is extensively used by garage mechanics, car owners, truck and tractor operators in determining clearance of tappets, fitting pistons and adjusting spark gap. Each leaf is clearly marked with its thickness. The six leaves fold readily into a protective case and can be replaced easily. One end of the case has an eyelet for key ring or hanging. Leaves are 3 inches long and ½ inch wide.

Thicknesses: .0015, .002, .003, .004, .015 inch.

No. **06**, Thickness Gage with Six Straight Leaves.

Packing: Six in a Box

## Leaves Only for All Thickness Gages

For use as separate pieces or for replacing leaves in gages. When ordering 3-inch leaves, specify thickness and straight or tapered. When ordering 4½ and 6-inch leaves, specify thickness.

**3**-Inch Leaves, Straight or Tapered.

**4½**-Inch Leaves, Tapered Only.

**6**-Inch Leaves, Tapered Only.

FOR PRICES SEE PRICE LIST

# Thickness Gages

## With Tapered Leaves


No. 126T


No. 109T

Thickness Gages (Feeler Gages) are used by toolmakers, machinists and others in jig and fixture work, in making gages, in experimental work and in the manufacturing and servicing of automobiles.

Thickness Gages with tapered leaves are made the same as Thickness Gages with straight leaves, see description on page 168.

Tapered leaves will enter narrower openings. Leaves are 3 in. long, ½ in. wide, tapered to ¼ in. width at point.

| No. | No. of Leaves | Thickness |
|---|---|---|
| **126T** | 26 | .0015, .002, .0025, .003, .004, .005, .006, .007, .008, .009, .010, .011, .012, .013, .014, .015, .016, .017, .018, .019, .020, .021, .022, .023, .024, .025 In. |
| **110T** | 10 | .0015, .002, .0025, .003, .004, .006, .008, .010, .012, .015 In. |
| **109T** | 9 | .0015, .002, .003, .004, .006, .008, .010, .012, .015 In. |
| ***109TM** | 9 | .04, .05, .06, .07, .08, .10, .15, .20, .25 Mm. |

*Combined thickness, 1 mm. Leaves approximately 7½ cm. long, tapered to 6½ mm.

## With Long Tapered Leaves

Thickness Gages (Feeler Gages) with long leaves are desirable in automotive work for finding clearance between piston and cylinder walls. Also used for other work where a longer gage is necessary.

The leaves are made of tempered steel, ground to thickness. Each leaf is individually tested and clearly marked with its thickness. Leaves fold readily into a protective case; can be replaced easily. Tapered leaves are more desirable because they will enter narrower openings.

The lock nut is another outstanding feature. One or more leaves can be locked firmly in any position permitting easier insertions in openings and reducing chances of error. Facilitates using the gage to its full extended length. No. 208T with leaf extended and locked in line with case gives an overall length of 9 in. No. 308T with leaf extended and locked in line with case gives an overall length of 12 in. Leaves are ½ in. wide and tapered to ¼ in. Thicknesses: .002, .003, .004, .006, .008, .010, .012, .015 inch.


No. 308T

No. **208T,** Thickness Gage with Eight Leaves 4½ inches Long.

No. **308T,** Thickness Gage with Eight Leaves 6 Inches Long.

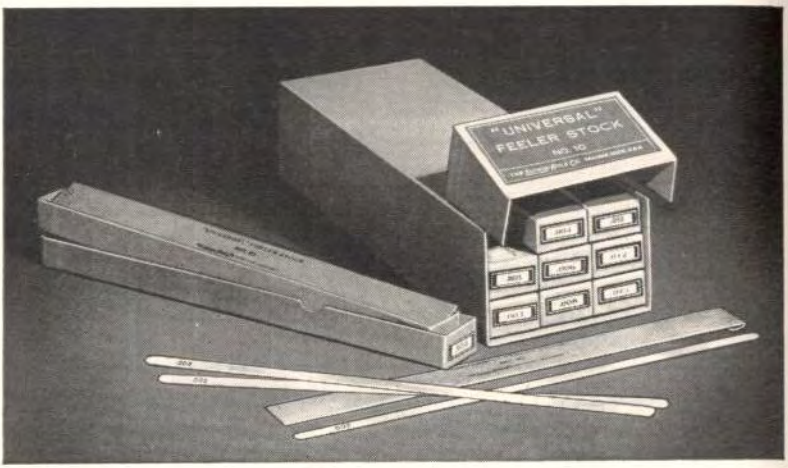
Packing: One in a Box.



FOR PRICES SEE PRICE LIST

# No. 10 "Universal" Feeler Stock

**In 1-Foot Pieces • Clean Stock**




This Feeler or Thickness Gage Stock is most extensively used in automobile and other motor work, both manufacturing and servicing. It is employed in determining clearance of tappets, gear play, ring-groove clearance, fitting pistons, adjusting spark gap, etc. Used in experimental work by toolmakers and machinists.

Each piece is marked with its thickness and has ends rounded. This stock is ½-inch wide and each 1-foot piece is in individual envelope, flat and ready to hand out. This prevents the waste due to rust and stain from handling and breaking from a coil.

When ordering, specify thickness.

No. **10,** "Universal" Feeler Stock.

| Available Thicknesses, Inches | | | | | |
|---|---|---|---|---|---|
| .001 | .004 | .009 | .014 | .019 | .024 |
| .0015 | .005 | .010 | .015 | .020 | .025 |
| .002 | .006 | .011 | .016 | .021 | .... |
| .0025 | .007 | .012 | .017 | .022 | .... |
| .003 | .008 | .013 | .018 | .023 | .... |

Packing: Twelve 1-Foot Pieces of One Thickness in a Box, Each Piece in Individual Envelope.

## No. 10 Assortment of Feeler Stock

Includes twelve 1-foot pieces of the nine following thicknesses: .0015, .002, .003, .004, .006, .008, .010, .012, and .015 inch.

Packing: Twelve Pieces in a Box; Nine Boxes in an Open End Carton as Illustrated.

*FOR PRICES SEE PRICE LIST*

# No. 110 "Universal" Feeler Stock

**25-Foot Roll in Metal Case • Clean Stock**


This stock is used by automobile mechanics in fitting pistons, setting tappets, adjusting spark gap, gear play, etc., and in experimental work by toolmakers and machinists.

Smooth-edged Thickness Gage or Feeler Stock, ½-inch wide, 25-foot roll, in metal case. This Feeler Stock carries Lufkin name and cutting line each foot, and is prominently marked with its thickness every 3 inches.

The improved metal case protects the stock and is convenient to handle. The thickness is clearly marked on each metal case. Size of case makes it best to handle and to keep the stock in proper condition. The stock is easily withdrawn and cut to length; the revolving core makes it simple to recoil any unused portion.

When ordering specify thickness.

No. **110,** "Universal" Feeler Stock.

| Available Thicknesses, Inches | | | | | |
|---|---|---|---|---|---|
| .001 | .004 | .009 | .014 | .019 | .024 |
| .0015 | .005 | .010 | .015 | .020 | .025 |
| .002 | .006 | .011 | .016 | .021 | .... |
| .0025 | .007 | .012 | .017 | .022 | .... |
| .003 | .008 | .013 | .018 | .023 | .... |

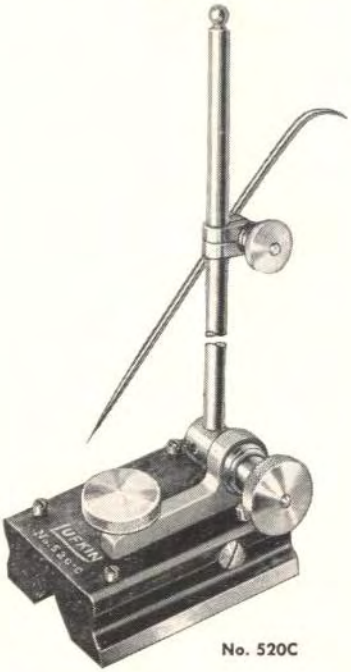
Packing: {25-Foot Roll in Case in a Box. .018 or over, Furnished in Cardboard Box.



FOR PRICES SEE PRICE LIST

# Universal Surface Gages

## Hardened Base




No. 520C

These superior type standard size Surface Gages have hardened bases.

The spindle is made of hollow steel tubing, light and rigid and will not tip the base when used with attachments. The sleeves on scriber clamp and spindle clamp are keyed so that holes for scriber and spindle are always in alignment. The fine adjustment permits greater range of adjustment than any similar gage. The base has four pins, for use as guides on linear work.

Base is finished in mottled blue, with all measuring faces ground and polished. The bottom and one end are grooved. Spindle can be set upright, at any angle, or so that scriber can be used below the base. For small work the spindle may be removed and scriber inserted through small hole in the rotating head. After spindle has been clamped in approximate position, the fine adjustment is made with the adjusting screw on rocker arm. This screw works against a stiff spring at the other end.

Bases are 3¼ inches long and 2½ inches wide. Length of spindle, as listed, does not include the base.

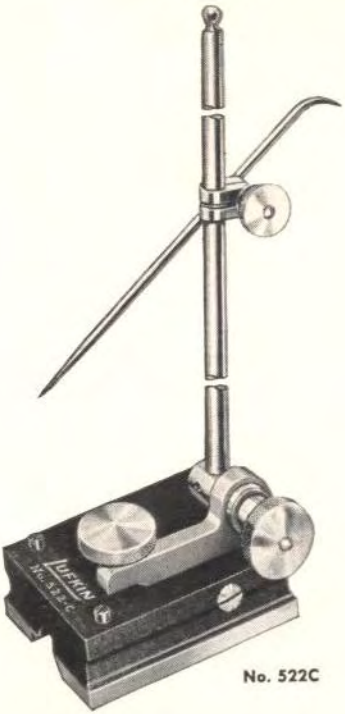
No. **520A,** Universal Surface Gage with 9-Inch Tubular Spindle.
No. **520B,** Universal Surface Gage with 9 and 12-Inch Tubular Spindles.
No. **520C,** Universal Surface Gage with 12-Inch Tubular Spindle.
No. **520K,** Indicator Attachment for Any of above (A Spindle Clamp with Hole for Holding Indicator).
**18**-Inch Tubular Spindle for Any of above.

Packing: One in a Box.

***FOR PRICES SEE PRICE LIST***

# Universal Surface Gages

## Cast Base




No. 522C

This series of Surface Gages is the same size and same range as the 520 series. They also embody many design and construction improvements. The base has a wrinkle finish, with measuring faces ground and polished. The bottom and one end are grooved, making the gage suitable for use on cylindrical as well as flat surfaces. Base has two gage pins for use as guides on linear work. Spindle can be set upright, at any angle, or so that scriber can be used below the base. For small work the spindle may be removed and scriber inserted through the small hole in the rotating head.

After the spindle has been clamped in approximate position, the fine adjustment is made with the adjusting screw on the rocker arm. This screw works against a stiff spring and permits a greater range of adjustment than any similar gage.

Bases are 3¼ inches long and 2½ inches wide. Length of spindle, as listed, does not include the base.

No. **522A,** Universal Surface Gage with 9-Inch Spindle.
No. **522B,** Universal Surface Gage with 9 and 12-Inch Spindles.
No. **522C,** Universal Surface Gage with 12-Inch Spindle.
No. **520K,** Indicator Attachment for any of above (A Spindle Clamp with Hole for Holding Indicator).
**18**-Inch Spindle for any of above.

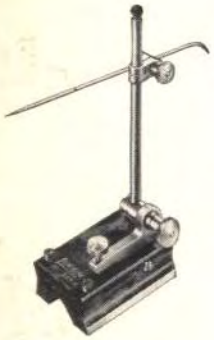
Packing: One in a Box.



FOR PRICES SEE PRICE LIST

# Toolmakers Universal Surface Gages

### Hardened Base



These Surface Gages are nicely proportioned, well built and suitable for small work.

The base is hardened and has all measuring faces ground and polished. Spindle and scriber holes are keyed, keeping them in constant alignment. The base is in mottled blue finish and has two gage pins for use as guides on linear work. The bottom and one end are grooved for cylindrical work. Spindle can be set upright, at any angle or so that scriber can be used below the base.

For small work spindle may be removed and scriber inserted through the small hole in the rotating head. After the spindle has been clamped in approximate position, the fine adjustment is made with the adjusting screw on the rocker arm. This screw works against a stiff spring and permits a greater range of adjustment than any similar gage.

Length of spindle, as listed, does not include the base. Bases are $2\frac{1}{8}$ inches long and $1\frac{15}{32}$ inches wide.

No. **521A,** Toolmakers Surface Gage with 4-Inch Spindle.
No. **521B,** Toolmakers Surface Gage with 4 and 7-Inch Spindles.
No. **521C,** Toolmakers Surface Gage with 7-Inch Spindle.

Packing: One in a Box.

# Hold Downs


Lufkin Hold Downs are made of tool steel, hardened and ground. They are designed to securely hold work flat and without distortion in a vise or on a machine bed. Hold downs are used where other methods of clamping are inconvenient and are especially adaptable for holding thin work.

An outstanding feature of Lufkin Hold Downs is that they not only clamp the work securely but constantly force it downward against the machine bed, because both contact edges are properly tapered and there is a clearance step along entire length of front of the under side. Lufkin Hold Downs are made in five lengths, all are of the same width and thickness, so any of the lengths can be used together on long work.

Width, $\frac{25}{32}$ inch.

No. **902C,** Hold Downs, 4 Inches Long. (Pair)
No. **902D,** Hold Downs, 5 Inches Long. (Pair)
No. **902E,** Hold Downs, 6 Inches Long. (Pair)

Packing: One Pair in a Box.

***FOR PRICES SEE PRICE LIST***

## Center Gages


No. 36

Center gages are used in grinding and setting screw cutting tools. The graduations are the most commonly required in determining the number of threads per inch or per centimeter. Lufkin center gages are made of tempered steel approximately 2¼ inches long and 11/16 inch wide. Internal angles are slotted for clearance.

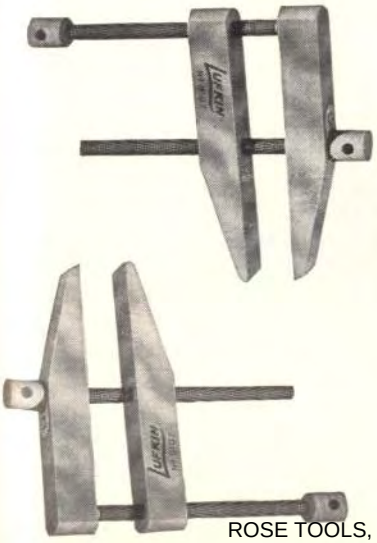
**Nos. 36 and 37** carry table of double depth figures. This is valuable to determine tap drill size for sharp 60 and 55 degree "V" threads. Allowance must be made for the extent to which thread is flattened, it being impractical to tap a perfectly sharp thread.

Spring Tempered

| No. | Item | Markings | Thickness Inches | Angle Degrees |
|---|---|---|---|---|
| *C36 | Center Gage, Chrome Clad | 14ths, 20ths, 24ths and 32nds Inch | 1/25 | 60 |
| 37 | Whitworth Standard Center Gage | 14ths, 20ths, 24ths and 32nds Inch | 1/25 | 55 |
| 36M | Metric Gage | 2 Edges Millimeters; 2 Edges ½ Mm. | 1/25 | 60 |

*Has American National Form of thread.

## Toolmakers Parallel Clamps




For holding small work together in drilling, tapping, etc. Designed to be strong and rigid and to insure positive hold. Jaw ends rounded to permit clamping under shoulders or in recesses.

One handy feature is clip attachment which prevents sliding of loose jaw on screw. Clip is flat, flush with jaw back, eliminating interference with fingers when opening and closing clamp.

Furnished in pairs.

| No. | Clamping Capacity Inches | Length Jaws Inches | No. | Clamping Capacity Inches | Length Jaws Inches |
|---|---|---|---|---|---|
| 910A | ¾ | 1⅝ | 910D | 2¼ | 3 |
| 910B | 1¼ | 2 | 910E | 2¾ | 4 |
| 910C | 1¾ | 2½ | 910F | 3½ | 5 |

When ordering extra parts: Screws, specify stock number and "full threaded" or "smooth end"; jaws, specify "with tapped holes" or "with holes not tapped", as well as stock number; clips, with clip screw, specify stock number.

Packing: One Pair (2 Clamps) in a Box.

# No. 907 Precision Vise

No. 907

The Lufkin Precision Vise No. 907 has been designed as a precise holding fixture for use on milling machines, drill presses, grinders and in many other applications.

The base has eight positioning holes or locations, into which the positioning pin may be inserted at the desired clamping point. The positioning pin passes through and anchors an eye bolt used to apply clamping pressure to the sliding jaw. The pressure angle is 45°, preventing "lifting" of the jaw.

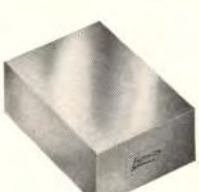
The base and front jaw are one-piece construction. The sliding jaw has both horizontal and vertical "V" grooves to assist in positioning and holding of the work. All faces are precision ground, square and parallel, to close tolerances. The vise is easily and quickly disassembled for cleaning and chip removal. Full hardened.

## SPECIFICATIONS

Overall Length: 7″ Width: 3″ Height: 2⅜″ Weight: 7 lbs. 8 oz.
Jaw Capacity: 4″ Depth: 1 5/16″ Packed: One each in a hinged wood case.

No. **907** Precision Vise

# No. 909 1-2-3 Set-Up Blocks



Ground blocks for precision set-ups or layouts on bench, surface plate or machine table. Each block is 1″ high, 2″ wide, 3″ long to permit settings from 1-inch to 6-inches, by 1-inch increments. Recesses on one side of blocks permit clamping blocks together with parallel clamps. Will hold firmly on a magnetic chuck. Blocks are hardened and tempered to Rockwell C62-64. All working surfaces are ground square and parallel to 16 micro inches or less. Tolerances are: 1″ width — + .0002″; 2″ width — + .0002″; 3″ width — + .0003″.
All tolerances are on the plus side to permit lapping the block to a more precise dimension, if desired.

No. **909** Pair of 1-2-3 Set-up Blocks

***FOR PRICES SEE PRICE LIST***

# No. 905 V Blocks and Clamps

**Hardened and Ground**

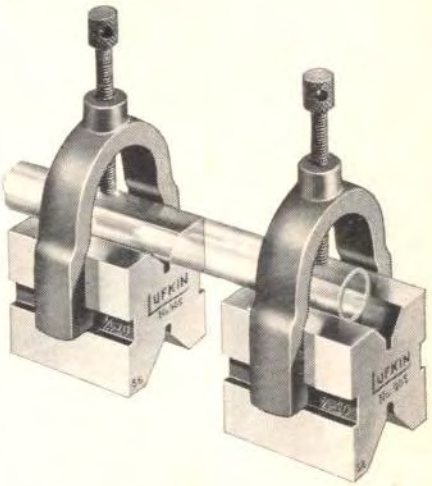
ade in pairs and sold in sets for use where an emely accurate setting is required; holding for drilling, milling, grinding and other op- ons, and in layout in connection with sur- or angle iron.

valuable feature is tapped hole through useful particularly when working on an plate fastened to lathe face plate or mag- chuck. Using ¼-20 screw, the block can be ned securely to angle plate at any angle out using other clamps that would interfere work in layout, milling, drilling, grinding,

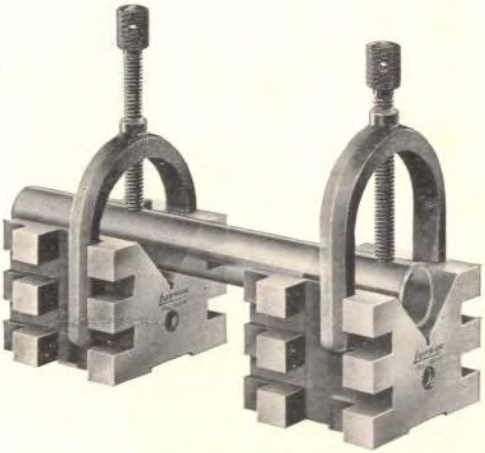
ade of tool steel, hardened and ground. pproximately 1⅝-inches long, 1¼-inches re; clamping capacity 1-inch diameter. s ground central, parallel and square with and sides. Blocks made and numbered in so V grooves in each pair always are in ment.

rong clamps of drop forged steel. Extra ps only for V blocks available.

o. **905,** V Blocks and Clamps (Set of 2).




# No. 906 V Blocks and Clamps

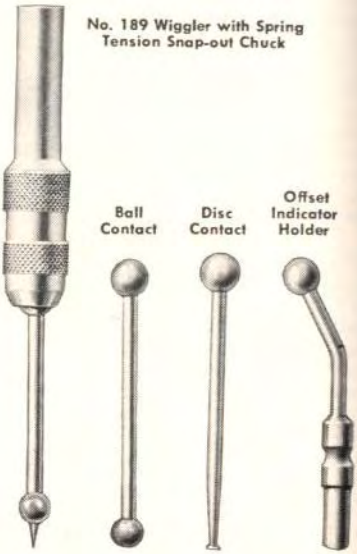


n extremely versatile V block. The clamps ot protrude over the sides enabling the tool e used on their sides. Each block has three ped holes (⅜–18) useful when working on le or face plate. Step design permits quick nge from small to large work. The V ways are ground central, parallel and square with ends and sides. Blocks are made in pairs assur- ing perfect alignment. They are made of hard- ened steel, accurately ground. Clamps are drop forged. Each block is 2½ in. long, 2¾ in. wide and 1 15/16 in. high. Capacity up to 2 in. diameter.

**No. 906,** V Block and Clamp (Set of 2) packing: one set in a box.

# Wigglers

## With Point, Ball Contact and Disc Contact


Wiggler or Center Finders are essential for all kinds of jig and tool work on jig boring, milling and boring machines and locating working points.

Tension on ball is maintained by a spring. The tension can be varied by an adjusting screw in end of shank. The point can be reversed and inserted in the handle to give the point protection when not in use.

Available for use with the above are a ball contact, disc contact.

The ball contact is useful in locating work in holes, slots, shoulders, etc. It is used by bringing the contact ball against the work and then indexing the work to desired position in alignment with spindle. Ball diameter .250 inch. The diameter of the disc contact is .100 inch and is used in smaller openings.

Series 189 has a spring tension snap-out chuck. Accessories are easily inserted into the adjustable tension chuck. This chuck permits use of offset holder which is used in conjunction with a dial indicator for checking surfaces, sweeping holes, checking run-out, alignments and many other jobs in contact machining, layout and other operations.

All attachments are held securely in shank by ball swivel joint that permits adjustment to any desired angle or true center. Shank length, 2⅜ inches, diameter, ⅜ inch.

| Series 89 Wiggler | |
|---|---|
| No. | Item |
| 89 | Wiggler Complete with Point, Ball and Disc Contact |
| 89A | Wiggler with Point Only |
| 89B | Ball Contact Only |
| 89C | Disc Contact Only |
| 89E | Extra Points Only |

| Series 189 Wiggler | |
|---|---|
| No. | Item |
| 189 | Complete with Combination Ball and Point, Disc Contact, Indicator Holder |
| 189A | Wiggler with Combination Ball and Point |
| 189B | Ball Contact Only |
| 189C | Disc Contact Only |
| 189D | Offset Indicator Holder Only |
| 189E | Extra Combination Ball and Point Only |

Packing: One in a Box; Three in a Carton.

FOR PRICES SEE PRICE LIST

## 289A Edge Finder

A precision tool for locating edges. Precision ground and hardened. The edge finder is .500 in diameter and can be used in a chuck or collet. Location may be made from flat or round surface.

**No. 289A** Edge Finder.

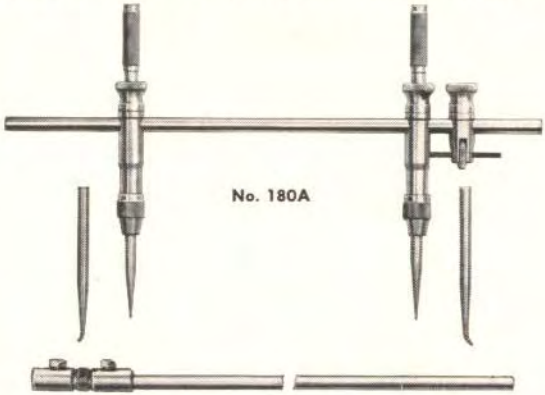
## 289B Double End Edge Finder

A precision tool for locating edges and determining centers. Precision ground and hardened. The body of the edge finder is .500 in diameter and can be used in a chuck or collet. One end has a hardened point for center finding and other end has a diameter of .200 for shoulder and slotwork.

**No. 289B** Double End Edge Finder.

# Steel Beam Trammels

**Correctly Designed for Layout Work, Scribing and Measuring**



No. 180A

No. 180D

No. 180E

No. 180H No. 180J No. 180K

Knurled grips on top of each tram are free turning, making tool more convenient for use.

Scriber points hardened for longer wear.

Top of rigid beam flattened so trams will not turn once set. Trams are held in position by spring friction and will not slide off beam when clamping nuts are loosened.

One tram has fine thread adjusting screw for accurate and fine adjustment of points.

Pair of caliper legs furnished with sets A, B and C.

Chuck will accommodate extra attachments listed.

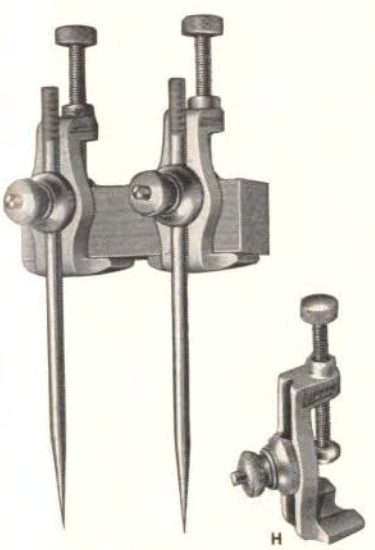
Small chuck accommodates pencil leads as well as hardened steel point. Needle point also hardened. A pen attachment is used by engineers and draftsmen.

| Trammels | | | Extra Parts | | | |
|---|---|---|---|---|---|---|
| Set No. | Beam Inches | Maximum Diameter of Circle Scribed Inches | No. | Description | No. | Description |
| 180A | 10½ | 18 | 180D | 20-Inch Long Extension Beam with Coupling and Wrench | 180F | Extra Caliper Points |
| 180B | 14½ | 26 | | | 180G | Straight Scriber Point |
| 180C | 20 | 36; 72 if Used with No. 180D | | | 180H | Steel Point and Lead Holding Chuck |
| | | | 180E | Ball Points and Holder; Permit Working from Holes to 1½-Inch diameter | 180J | Hardened Needle Point |
| | | | | | 180K | Pen Attachment for Engineers, Draftsmen |
| | | | | | 180M | Wood Case Only For 180A |
| | | | | | 180P | Wood Case Only For 180B |
| | | | | | 180S | Wood Case Only For 180C |

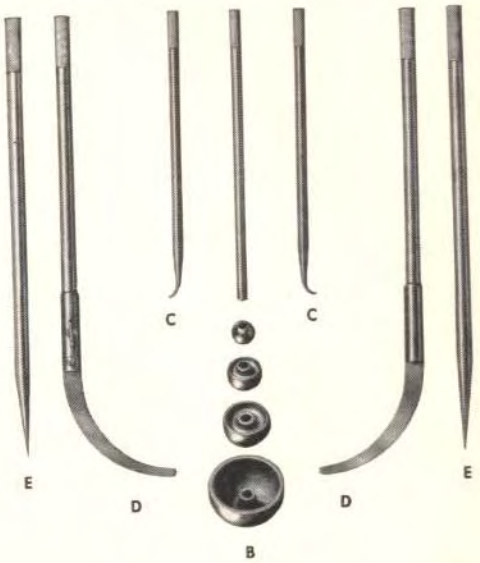
Packing: One in a Box.

**FOR PRICES SEE PRICE LIST**

# Wood Beam Trammels




No. 179A




Lufkin Wood Beam Trammels can be fastened to beams from ⅝ to 1⅝ inches wide. As no fitting is required, it can be of any thickness.

Readily adapted to small or large work in layout, scribing, transfer and measuring.

The attachments are easily inserted and firmly held in the trammel head.

The head will accommodate an ordinary lead pencil which can be inserted in place of either of the steel points.

A complete assortment of attachments is available including short and long divider points, small and large caliper legs and a set of 4 ball points with holder.

One leg of the large caliper is adjustable giving added utility.

The ball points permit scribing a circle from the center of a hole having a diameter of 1½ inches or less.

A beam is not furnished with this trammel as it is common practice for the user to select the length of the beam for his particular use.

No. **179A,** Wood Beam Trammels. Includes One Pair of Heads and One Pair of Short Divider Points.

No. **179B,** Set of 4 Ball Points and Holder Only.

No. **179C,** One Pair of Small Caliper Legs Only.

No. **179D,** One Pair of Large Caliper Legs Only.

No. **179E,** One Pair of Long 9-Inch Divider Points Only.

No. **179G,** Short 6-Inch Divider Point Only.

No. **179H,** Trammel Head (One Only).

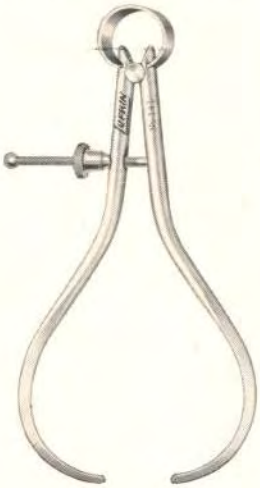
No. **179S,** Complete Set. Consists of 179A, 179B, 179C, 179D, and 179E.

Packing: One in a Box.

# Toolmakers Spring Dividers and Outside and Inside Spring Calipers

**Round Leg Pattern • The Finest Type**

No. 140



No. 141

No. 142

Preferred by fine mechanics because of their stability and fine proportions.

All torsion on legs and spring is avoided by mounting the adjustment screw central in the legs. Legs are of round stock, finely formed, tapered by swaging.

Parts most subject to wear are hardened.

Stiff flat bow spring insures reliability and long life.

Furnished only with solid nut.

Nicely finished and most attractive.

No. 140 has thumb attachment.

| Spring Divider | | Outside Spring Caliper | | Inside Spring Caliper | |
|---|---|---|---|---|---|
| No. | Size | No. | Size | No. | Size |
| **140** | **2** Inch | **141** | **2** Inch | **142** | **2** Inch |
| **140** | **3** Inch | **141** | **3** Inch | **142** | **3** Inch |
| **140** | **4** Inch | **141** | **4** Inch | **142** | **4** Inch |
| **140** | **6** Inch | **141** | **6** Inch | **142** | **6** Inch |

**Duplicate Parts of Toolmakers Spring Calipers and Dividers**

When Ordering Parts Be Sure to Specify Size and Stock Number of Caliper or Divider

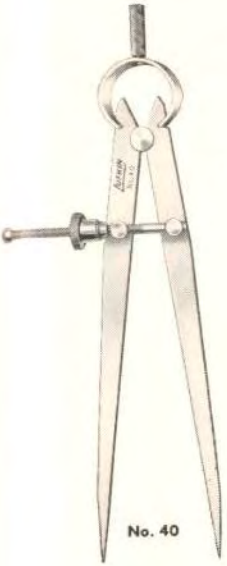
| | | |
|---|---|---|
| Screw and Ball | Jam Washer | Spring for Nos. 141 and 142 |
| Spring with Thumb Attachment for No. 140 | Leg (Plain) | Fulcrum Stud |
| Nut with Jam Washer | Leg (Bearing Lufkin Name) | |

Packing: Two in a Box.

*FOR PRICES SEE PRICE LIST*

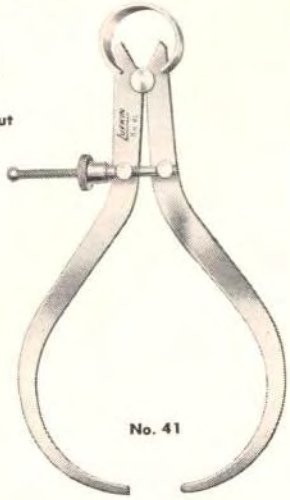
# "Banner" Spring Dividers and Outside and Inside Spring Calipers

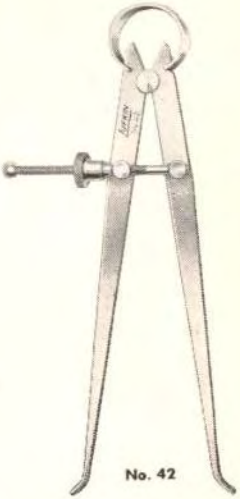
**With Solid Nut • With "Quick" Nut**





"Quick" Nut




The type most widely used. Nicely proportioned and well finished. Parts most subject to wear are hardened. Stiff flat bow spring insures reliability. Spring dividers have thumb attachment. Offered with Solid Nut or "Quick" Nut. "Quick" Nut for quickly making initial adjustment. The most satisfactory type and entirely different from others. Not spring operated. Measurement not only quickly obtained but positively held. On release of pressure, nut slides freely over the threads; on slightest leg pressure it grips screw firmly.

| Spring Divider | | | | Outside Spring Caliper | | | | Inside Spring Caliper | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| With Solid Nut | | With "Quick" Nut | | With Solid Nut | | With "Quick" Nut | | With Solid Nut | | With "Quick" Nut | |
| No. | Size | No. | Size | No. | Size | No. | Size | No. | Size | No. | Size |
| 40 | 3 Inch | 50 | 6 Inch | 41 | 3 Inch | 51 | 6 Inch | 42 | 3 Inch | 52 | 6 Inch |
| 40 | 4 Inch | 50 | 8 Inch | 41 | 4 Inch | 51 | 8 Inch | 42 | 4 Inch | 52 | 8 Inch |
| 40 | 6 Inch | 50 | 10 Inch | 41 | 6 Inch | 51 | 10 Inch | 42 | 6 Inch | 52 | 10 Inch |
| 40 | 8 Inch | 50 | 12 Inch | 41 | 8 Inch | 51 | 12 Inch | 42 | 8 Inch | 52 | 12 Inch |
| 40 | 10 Inch | | | 41 | 10 Inch | | | 42 | 10 Inch | | |
| 40 | 12 Inch | | | 41 | 12 Inch | | | 42 | 12 Inch | | |

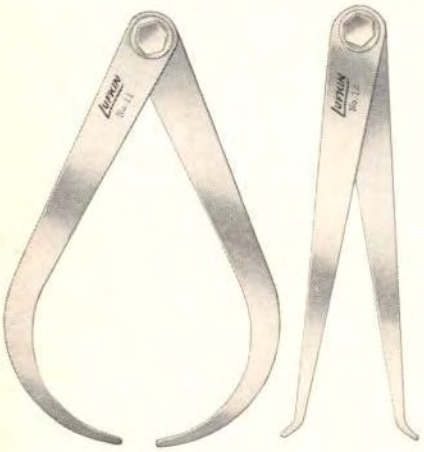
**Duplicate Parts of "Banner" Spring Calipers and Dividers**

When Ordering Parts Be Sure to Specify Size and Stock Number of Caliper or Divider

| | | |
|---|---|---|
| Screw and Ball | "Quick" Nut with Jam Washer | Leg (Bearing Lufkin Name) |
| Spring with Thumb Attachment for Nos. 40 and 50 | Jam Washer | Spring for Nos. 41, 51, 42 and 52 |
| Solid Nut with Jam Washer | Leg (Plain) | Fulcrum Stud |

Packing: Three in a Box.

# Firm Joint and Screw Adjusting Firm Joint Outside and Inside Calipers



No. 11



No. 12

No. 21

No. 22

The distinctive feature of these calipers is the adjustable tension in the joint. This lock screw construction permits the legs to be set and held to any desired tension or friction.

Firm joint is the type of caliper that can be brought to size most quickly.

Sturdily constructed. Nicely proportioned. Well finished. Smooth operating.

Screw Adjusting Firm Joint Calipers provide faster setting for finer measurements.

All sizes listed below are length of legs. Actual capacity is about one-quarter greater than its length.

| Firm Joint | | | | | Screw Adjusting—Firm Joint | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Outside Caliper | | Inside Caliper | | | Outside Caliper | | Inside Caliper | | |
| No. | Size | No. | Size | No. in Box | No. | Size | No. | Size | No. in Box |
| **11** | 6 Inch | **12** | 6 Inch | 6 | **21** | 6 Inch | **22** | 6 Inch | 3 |
| **11** | 8 Inch | **12** | 8 Inch | 3 | | | | | |
| **11** | 10 Inch | **12** | 10 Inch | 3 | | | | | |
| **11** | 12 Inch | **12** | 12 Inch | 3 | **21** | 12 Inch | **22** | 12 Inch | 3 |
| **11** | 18 Inch | **12** | 18 Inch | 2 | **21** | 18 Inch | **22** | 18 Inch | 2 |
| **11** | 24 Inch | **12** | 24 Inch | *1 | **21** | 24 Inch | **22** | 24 Inch | *1 |
| | | | | *1 | | | | | |
| **11** | 36 Inch | | | *1 | | | | | |

*Furnished in a package.

## Firm Joint Hermaphrodite Calipers


No. A17


No. 17

Laying out work, locating centers, etc. are the principal uses of Firm Joint Hermaphrodite Calipers. The distinctive features of these Firm Joint Calipers is the adjustable tension in the joint. This lock screw construction permits the legs to be set and held to any desired tension or friction.

Firm Joint is the type of caliper that can be brought to size quickly.

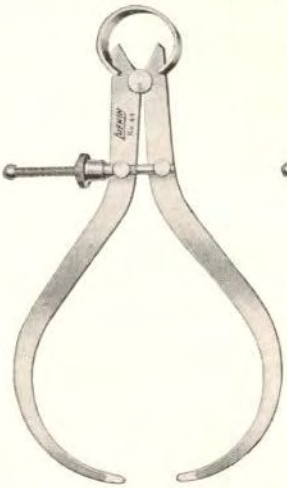
These calipers are of sturdy construction, nicely proportioned, well finished and smoothly operating.

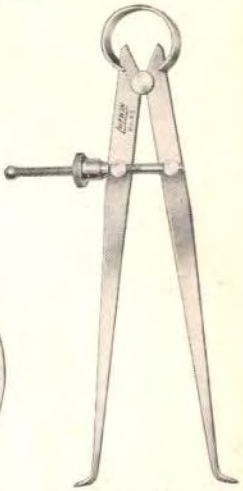
Sizes listed below are length of legs. Actual capacity is about one-quarter greater than this length.

| No. | Size | Type Caliper |
|---|---|---|
| A17 | 4 Inch | With Adjustable Point |
| A17 | 6 Inch | |

## Thread Calipers

### With Solid Nut


No. 44


No. 45

Designed for taking measurements of outside and inside screw threads. Points are suitably shaped to work in threads; otherwise these calipers are same as our general purpose "Banner" line. Parts most subject to wear are hardened.

Stiff, flat bow spring insures reliability.

Nicely proportioned and well finished.

| Outside Thread Caliper | | Inside Thread Caliper | |
|---|---|---|---|
| With Solid Nut | | With Solid Nut | |
| No. | Size | No. | Size |
| 44 | 4 In. | 45 | 4 In. |
| 44 | 6 In. | 45 | 6 In. |

Packed Three in a Box.



FOR PRICES SEE PRICE LIST

# Carbon Steel Pocket Slide Calipers


No. 453


No. 453, Reverse Side

A finely finished tool made of carbon steel. Suitable for outside and inside calipering. Accurate, machine divided graduations.

For faster and more accurate readings, measurements are read to a line rather than at the face of the jaw. These lines are marked "out" and "in" to indicate both outside and inside measurements. A lock screw holds the slide securely at any desired point and can be operated by the same hand in which the tool is held. A serrated pad on the slide affords easy opening and closing of the jaws. A stop is provided so that the slide cannot be entirely withdrawn. Rapid Reading Graduations.

| | On 3-Inch and 7 Cm. | On 5 and 6-Inch and 12 Cm. |
|---|---|---|
| Depth of Jaws | 11/16 Inch (17 Mm.) | 1 7/16 Inch (36 Mm.) |
| Width of Nibs, Closed | 1/8 Inch (3 Mm.) | 1/4 Inch (6 Mm.) |

| No. | Length | Graduations | Calipering Capacities | |
|---|---|---|---|---|
| | | | Outside | Inside |
| **453** | 3 In. | *Marked English Only; Slide, 64ths Inch; Stock, 32nds Inch | 2 1/8 In. | 2 1/4 In. |
| **455** | 5 In. | *Marked English Only; Slide, One Edge 32nds Inch, One Edge 64ths Inch; Stock, 32nds Inch | 3 13/16 In. | 4 In. |
| **456** | 6 In. | *Marked English Only; Slide, One Edge 32nds Inch, One Edge 64ths Inch; Stock, 32nds Inch | 4 3/4 In. | 5 In. |
| **453EM** | 3 In. (7 Cm.) | Marked English and Metric; Slide, One Edge 64ths Inch, One Edge 1/2 Mm.; Stock, 32nds Inch | ..... | ..... |
| **455EM** | 5 In. (12 Cm.) | Marked English and Metric; Slide, One Edge 64ths Inch, One Edge 1/2 Mm.; Stock, 32nds Inch | ..... | ..... |

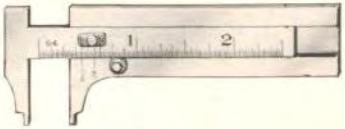
Plastic Cases for Pocket Slide Calipers in 3, 5, and 6-Inch Sizes; Specify Size.

Packing: One in a Box.

FOR PRICES SEE PRICE LIST

# Stainless Steel Pocket Slide Calipers


No. S453



No. S453, Reverse Side

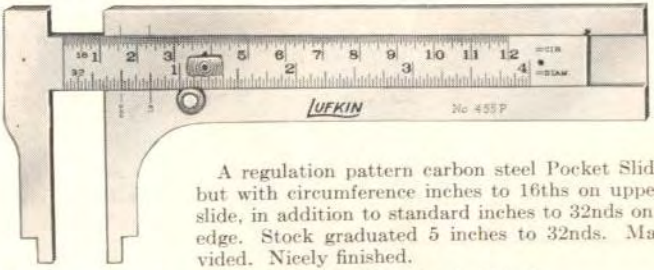
A finely finished tool made of stainless steel. Stainless steel for calipers is very valuable in certain industries and under some climatic conditions as it keeps the reading parts free of stain and rust and prolongs the life of the tool.

For faster and more accurate readings, measurements are read to a line rather than at the face of the jaw. These lines are marked "out" and "in" to indicate both outside and inside measurements. A lock screw holds the slide securely at any desired point and can be operated by the same hand in which the tool is held. A serrated pad on the slide affords easy opening and closing of the jaws. A stop is provided so that the slide cannot be entirely withdrawn.

| | On 3-Inch | On 5 and 6-Inch |
|---|---|---|
| Depth of Jaws | $1\frac{1}{16}$ Inch | $1\frac{7}{16}$ Inch |
| Width of Nibs, Closed | $\frac{1}{8}$ Inch | $\frac{1}{4}$ Inch |

| No. | Length Inches | Graduations Rapid Reading | Calipering Capacities | |
|---|---|---|---|---|
| | | | Outside | Inside |
| S453 | 3 | Marked English Only; Slide, 64ths Inch; Stock, 32nds Inch | $2\frac{1}{8}$ | $2\frac{1}{4}$ |
| S455 | 5 | Marked English Only; Slide, One Edge 32nds Inch, One Edge 64ths Inch; Stock, 32nds Inch | $3\frac{13}{16}$ | 4 |
| S456 | 6 | Marked English Only; Slide, One Edge 32nds Inch, One Edge 64ths Inch; Stock, 32nds Inch | $4\frac{3}{4}$ | 5 |

## No. 455P Circumference Gage and Pocket Slide Caliper




A regulation pattern carbon steel Pocket Slide Caliper but with circumference inches to 16ths on upper edge of slide, in addition to standard inches to 32nds on its lower edge. Stock graduated 5 inches to 32nds. Machine divided. Nicely finished.

Applied to diameters, outside or inside, circumference as well as diameter can be read directly. All measurements are read to a line rather than at face of jaw, an aid to close and quick reading. Lines are clearly marked "out" and "in". Will caliper up to $2\frac{3}{4}$-inch diameter, as jaws are $1\frac{7}{16}$ inches deep. Width of nibs when closed, $\frac{1}{4}$ inch.

A serrated pad on the slide affords easy opening and closing of the jaws. A stop is provided so that the slide cannot be entirely withdrawn.

Calipering capacities: outside, $3\frac{13}{16}$ inches; inside, 4 inches of diameter.

No. **455P**, 5-Inch Circumference Gage and Pocket Slide Caliper. [illegible] One in a Box.

# "Miti-Mite" Magnetic Base Tools

Lufkin Magnetic Base Tools were designed to provide on-the-job convenience. The powerful permanent magnets readily attach themselves to either round or flat steel and iron surfaces. Haphazard clamping is eliminated. Bases have magnetic pull of 50 and 100 pounds. Tool makers, die makers, inspectors, machinists, maintenance and repair men and home craftsmen will find many applications for these tools.

### No. 100 Magnetic Base Indicator Holder

This is a precision built unit for holding indicators and other tools. The base is completely shielded and is 1⅛ inches square. Included with this unit are: one long post, one short post and one adaptor.

**Permanent magnet** with 50-pound pull.

**Ball-and-socket action** for positioning.

**Accurate;** eliminates haphazard clamping.

**Magnetic holding** is safe, sturdy.

**Saves** time and effort.

No. **100,** Magnetic Base Indicator Holder with Attachments.

### No. 101 Magnetic Base Indicator Holder with Fine Adjustment

Same as above except for extra fine adjustment which allows closer setting of dial indicators. Attaches instantly to either round or flat surfaces. Attachments included with this unit: one long post, one short post and one adaptor.

No. **101,** Magnetic Base Indicator Holder with Fine Adjustment and Attachments.

**Note:** For attachments, see page 196.

Packing: One in a Box.

### No. 102A Miti-Mite Indicator Holders

This new Indicator Holder is stronger . . . will hold even the heavy, lug-back type indicators securely in position. The large (5/16" diameter) base post is rigid and centered directly over the point of greatest magnetic pull, assuring positive settings that will not slip or alter position. Ideal for all set-ups, machining, or checking and inspection requiring the use of an indicator. Base attaches instantly to both curved and flat iron or steel surfaces . . . without the use of clamping devices.

No. **102A** "Miti-Mite" Indicator Holder (with fine adjustment feature)

# "Miti-Mite" Magnetic Base Tools

## No. 150 Heavy Duty Magnetic Base Indicator Holder

No. 150

No. 155 Shoe

This precision built unit is designed for heavy duty work. It can be used with most indicators including the lug back type. The base is 4 inches long, 1¼ inches wide and 1⅝ inches high: shielded with non-breakable molded plastic. Attachments included with this unit are: two long posts, one short post and one adaptor.

**Permanent magnet** with 100-pound pull.

**Ball-and-socket action** for positioning.

**Accurate;** eliminates haphazard clamping.

**Magnetic holding** is safe, sturdy.

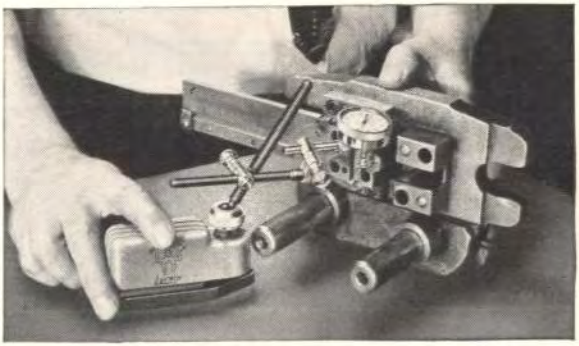
**Saves** time and effort.

**Fingertip control magnetic release** for repositioning or removing without jarring indicator.

This Magnetic Base Indicator Holder can be quickly converted to a surface gage by mounting a No. 155 shoe as shown below. Allows use on iron or steel surface plates as well as on glass or marble.

No. **150,** Heavy Duty Magnetic Base Indicator Holder with Attachments.

No. **155,** Surface Gage Shoe Only.



**Note:** For attachments see page 196.

Packing: One in a Box.

# "Miti-Mite" Magnetic Base Tools

## No. 150A Heavy Duty Magnetic Base Indicator Holder with Fine Adjustment

This unit is precision built, designed for heavy work. Attaches instantly to either round or flat iron and steel surfaces.

The base is 4 inches long, 1¼ inches wide and 1⅝ inches high. It is completely shielded with non-breakable molded plastic. Attachments included with this unit are: two long posts, one short post and one adaptor.

**Fine adjustment for finer settings.**

**Permanent magnet with 100-pound pull.**

**Ball-and-socket for positioning.**

**Accurate; eliminates haphazard clamping.**

**Magnetic holding is safe, sturdy.**

**Saves time and effort.**

**Fingertip control magnetic release for repositioning or removing without jarring indicator.**

No. **150A,** Heavy Duty Magnetic Indicator Holder with Fine Adjustment and Attachments.

**Note:** For attachments see page 196.

Packing: One in a Box.

# "Miti-Mite" Magnetic Base Tools

## Magnetic Base Fluorescent Handi-Lite

No. 350X
with 4 Power Magnifier

Ideal for industrial laboratories, tool rooms, die shops, bench inspection, surface grinding, precision lathe work, etc.

High intensity lighting (500 foot candles at 3" working distance) coupled with a 4-power magnifier. Unit operates at about body temperature, eliminating danger of burns. The two fluorescent lamps, 5" long, are protected by a plastic chip shield. Lights immediately with improved instant-starter switch. The magnifier is securely attached to the lamp and has a friction adjustment for selective positioning. The heavy duty goose neck is flexible—may be adjusted to desired position. Magnetic base has two heavy duty permanent magnets arranged to attach firmly to both round and flat ferrous surfaces. A fingertip control magnetic release permits changing positions easily. UL approved cord.

**350X-4X** With 4 Power Magnifier

**350X-8X** With 8 Power Magnifier



FOR PRICES SEE PRICE LIST

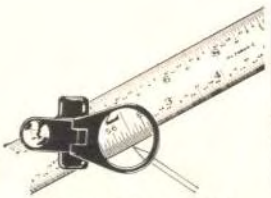
# Magnetic Base 5-Power Magnifier

**Reduces Eyestrain - Increases Accuracy**

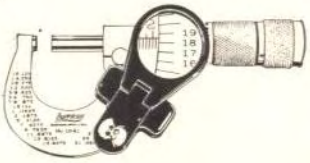
**No. 124**
**Handi-Magnifier**

A strong (5-Power) magnifier lens that greatly enlarges fine graduations and small parts for accurate measuring and inspection. Magnifier lens swivels full 360° and tilts to any position from horizontal to vertical. Sturdy, molded plastic construction. Permanent magnet is mounted in base. Hinged lens and spring loaded swivel holds setting.

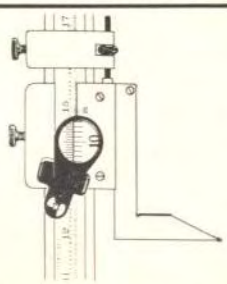
## MANY USES ON BENCH OR MACHINE



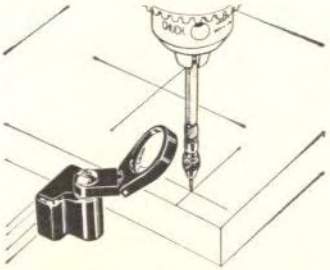
MEASURE ACCURATELY



EASIER READING



ENLARGE VERNIER GRADUATIONS



CHECK LAYOUTS

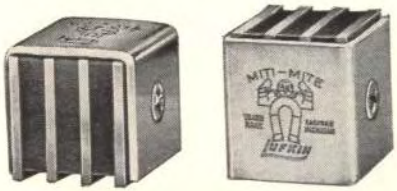
# "Miti-Mite" Magnetic Base Tools

## No. 125 Five Power Magnifier

A handy accessory for use in inspection, precision drilling, assembly of small parts, reading fine graduations. etc. The magnifier has a five power lens, designed to eliminate distortion. Can be used on No. 100 and 101 magnetic holders.
No. **125** Magnifier. 1¾ in. dia. lens

Packing: One in a Box.

# "Miti-Mite" Magnetic Blocks

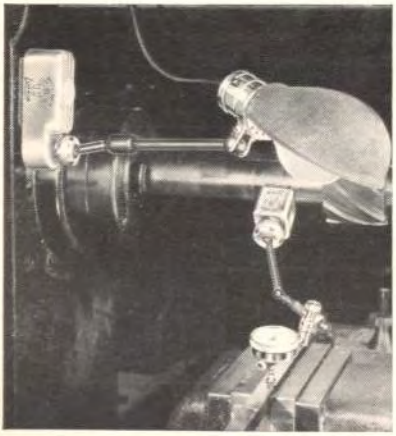



For hundreds of applications where a third . . . or even a fourth . . . hand is needed as in setting up work on an angle plate or sine bar. Will even hold light work on a drill press. Particularly good for holding two pieces at right angles, such as holding a steel rule vertically on a surface plate or machine table. These blocks have three adjacent, magnetic sides that are square and parallel. Outer shell on three sides is non-magnetic aluminum.

No. **904** Magnetic Blocks.

# "Miti-Mite" Magnetic Base Tools

## No. 250 Heavy Duty Magnetic Base Portable "Handi-Lite"



Convenient and handy. Used by mechanics, machinists, repairmen, engravers, maintenance men, hobbyists and others. It can also be used as an auxiliary light in the shop and for many repair operations.

Readily attaches itself to flat or curved steel and iron surfaces. The light can be adjusted to any desired angle. The lamp shield is rayon flocked, coated to resist heat and glare.

This unit is equipped with 8 feet of oil resisting, UL approved neoprene cord and molded plug.

Operates on 110 volts.

**Permanent magnet** with 100-pound pull.
**Ball-and-socket action** for positioning.
**Eliminates;** haphazard clamping.
**Magnetic holding** is safe, sturdy.
**Saves** time and effort.
**Standard bulbs** up to 100 watts can be used.
**Fingertip control magnetic release** for positioning or removing without jarring indicator.
**Portable** and convenient to use.
No. **250,** Heavy Duty Portable "Handi-Lite."

Packing: One in a Box.

***FOR PRICES SEE PRICE LIST***

# "Miti-Mite" Magnetic Base Tools

## No. 200 Magnetic Base Portable "Handi-Lite"

A very handy portable light used by mechanics, machinists, repairmen, engravers, maintenance men, refrigerator and radio mechanics, hobbyists and others.

Readily attaches itself to flat or curved steel and iron surfaces. The light can be adjusted to any desired angle. The lamp shield is rayon flocked, coated to resist heat and glare.

Comes equipped with a 6-foot UL approved oil resisting cord. Furnished with two 25-watt bulbs.

Operates on 110 Volts.

**Permanent magnet** with 50-pound pull.

**Ball-and-socket action** for positioning.

**Eliminates** haphazard clamping.

**Saves** time and effort.

No. **200,** Portable "Handi-Lite" with Bulbs.

No. **200-2,** 40 Watt Lamps (Carton of 6).

No. **200-13,** 25-Watt Lamps (Carton of 6).

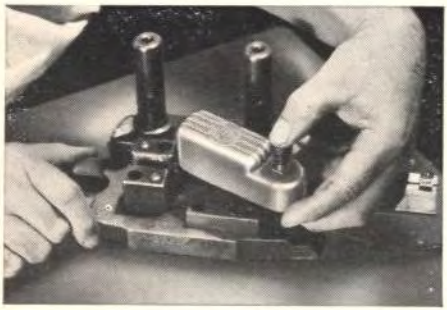
Packing: One in a Box.



*FOR PRICES SEE PRICE LIST*

# "Miti-Mite" Magnetic Base Tools

## No. 500 Portable Demagnetizer



This is a portable instrument which thoroughly demagnetizes tools, dies, cutters, parts, etc., merely by sliding it over the surface of the item to be demagnetized. Pressing the single pole momentary switch sets up a field of flux which neutralizes magnetism. Releasing the switch automatically shuts off the unit.

The Demagnetizer is 1¼ inches wide, 1⅝ inches high and 4 inches long. Because of its compact size, the unit may be used effectively in small cavities of dies, punches, etc.

The base is smooth with rounded corners and will not mar surfaces. It is equipped with 6 feet of UL approved oil resistant cord. For 110-volt, ac. current only.

No. **500,** Portable Demagnetizer.

Packing: One in a Box.

## Posts and Adaptors for Use with "Miti-Mite" Magnetic Base Tools

Attachments for Nos. 100 and 101 Indicator Holders

Attachments for Nos. 150 and 150A Heavy Duty Indicator Holders

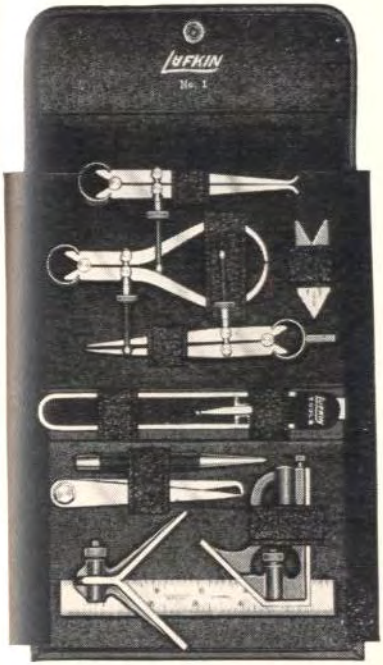
No. 520K Indicator Attachment

No. 110 Swivel Adaptor For Use with Dial Indicators

FOR PRICES SEE PRICE LIST

# Tool Set No. 1

**For Students, Apprentices and Mechanics**





This set includes only those tools that are indispensable to the student or beginner. The set contains only standard tools. It is furnished in a compact folding case convenient to carry to classes or shop.

The tools are identical to those listed in this catalog and the same as those sold to fine mechanics for their regular work. These precision tools may then become a part of the more complete kit or chest of tools which the mechanic will require in his shop work to follow.

The tools are nicely arranged and held in the fitted case, which folds to size 7¼x5¼x1-inch. Set complete with case weighs 1¼ pounds.

Contents of Set No. **1**. One Each of the Following

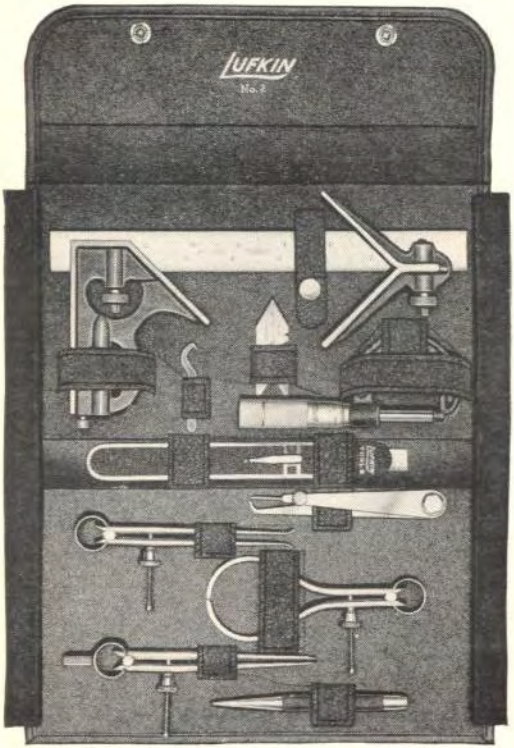
| No. | Description | Illustrated on Page | No. | Description | Illustrated on Page |
|---|---|---|---|---|---|
| 25C | 6-Inch Combination Square (Blade with Square and Center Heads) | 76 | 42 | 4-Inch "Banner" Inside Spring Caliper | 183 |
| 2110R | 6-Inch Flexible Steel Rule, w/Case | 208 | A17 | 4-Inch Firm Joint Hermaphrodite Caliper | 185 |
| 40 | 4-Inch "Banner" Spring Divider | 183 | 71C | Center Punch | 203 |
| 41 | 4-Inch "Banner" Outside Spring Caliper | 183 | 36 | Center Gage | 175 |

**Note:** Other complete tool sets for students, see pages 198–199.

Packing: One Set in a Box.

# Tool Set No. 2

**For Students, Apprentice Toolmakers and Mechanics**




Differs from Set No. 1 as follows: a micrometer is included; combination square is 9 inches instead of 6 inches; calipers and dividers are toolmakers pattern; hermaphrodite calipers have adjustable point.

This set includes only those tools that are indispensable to the student or beginner. The set contains only standard tools. It is furnished in a compact, folding case, convenient to carry to classes or shop.

The tools in this set are identical to those listed in this catalog and are the same as those sold to fine mechanics for their regular work. These precision tools then may become a part of the more complete kit or chest of tools which the mechanic will require in his shop work to follow.

The tools are nicely arranged and held in the fitted case which folds to size 10¼x6x1-inch. Set complete with case weighs 2 pounds.

Contents of Set No. 2. One Each of the Following

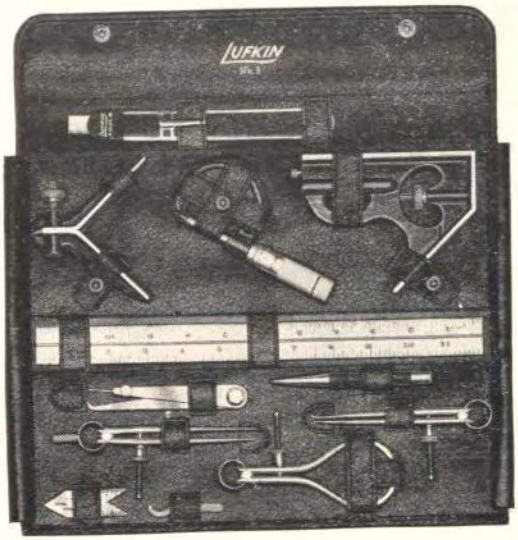
| No. | Description | Illustrated on Page | No. | Description | Illustrated on Page |
|---|---|---|---|---|---|
| 1911 | 1-Inch Chrome Clad Micrometer | 15 | 141 | 4-Inch Toolmakers Outside Spring Caliper | 182 |
| 25C | 9-Inch Combination Square (Blade with Square and Center Heads) | 76 | 142 | 4-Inch Toolmakers Inside Spring Caliper | 182 |
| 2110R | 6-Inch Flexible Steel Rule, w/Case | 208 | A17 | 4-Inch Firm Joint Hermaphrodite Caliper | 185 |
| 140 | 4-Inch Toolmakers Spring Divider | 182 | 71D | Center Punch | 203 |
| | | | 36 | Center Gage | 175 |

Packing: One Set in a Box.

***FOR PRICES SEE PRICE LIST***

# Tool Set No. 3

## For Students, Apprentice Toolmakers and Machinists




No. 3 is the most complete set.

No. 3 Tool Set differs from No. 1 Set as follows: A micrometer is included; combination square is 12 inches, the size most used in shops; calipers and dividers are toolmakers pattern; hermaphrodite calipers have adjustable point; the case is of heavier and more durable materials.

No. 3 Tool Set differs from No. 2 Set as follows: No. 3 Tool Set has a 12-inch instead of 9-inch combination square; the case is of heavier and more durable material.

This set includes only those tools that are indispensable to the student or beginner. The set contains only standard tools. It is furnished in a compact folding case, convenient to carry to classes or shop.

The tools in this set are identical to those listed in this catalog and are the same as those sold to fine mechanics for their regular work. These precision tools then may become a part of the more complete kit or chest of tools which the mechanic will require in his shop work to follow.

The tools are nicely arranged and held in the fitted case which folds to size 12¾x5x1¼ inches.

Set complete with case weighs 2½ pounds.

Contents of Set No. 3. One Each of the Following

| No. | Description | Illustrated on Page | No. | Description | Illustrated on Page |
|---|---|---|---|---|---|
| 1911 | 1-Inch Chrome Clad Micrometer | 15 | 141 | 4-Inch Toolmakers Outside Spring Caliper | 182 |
| 25C | 12-Inch Combination Square (Blade with Square and Center Heads) | 76 | 142 | 4-Inch Toolmakers Inside Spring Caliper | 182 |
| 211OR | 6-Inch Flexible Steel Rule, w/Case | 208 | A-17 | 4-Inch Firm Joint Hermaphrodite Caliper | 185 |
| 140 | 4-Inch Toolmakers Spring Divider | 182 | 71D | Center Punch | 203 |
| | | | 36 | Center Gage | 175 |

Packed One Set in a Box.



FOR PRICES SEE PRICE LIST

# Pocket Scribers

Scriber Ready for Use

Point Reversed, Inserted and Locked into Handle

A very handy and convenient tool for all mechanics. Handle is made of steel tubing, nickel plated. It is knurled, affording a good grip. Scriber point is made of high grade steel, properly tempered for long wear. The point is held rigid and firm in the handle by a knurled chuck. Hexagon head prevents rolling.

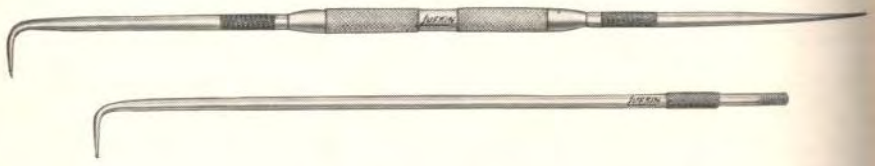
No. **87A,** Pocket Scriber; Diameter Handle, ¼ Inch; Length Point, 2⅜ Inches.

No. **87B,** Pocket Scriber; Diameter Handle, ⅜ Inch; Length Point, 2⅞ Inches.

Points Only for above Scribers (Specify A or B).

**Note:** Blades of Screw Drivers Nos. 187A and 187B, listed page 204, will fit handles of Pocket Scribers Nos. 87A and 87B. On such Screw Driver Blades only, specify "A" or "B"

# Scribers



A high quality Scriber made of fine quality steel, properly tempered for long wear. Portions of points and stock are knurled for firm grip. Stock is ample size so that it can be held easily. Points have threaded ends and can be engaged in either end of stock. Long bent point is designed for reaching through holes.

Length of scriber: with short bent point, 9 inches; with long bent point, 12 inches.

No. **88A,** Scriber with Three Points (One Straight, One Long and One Short Bent).

No. **88B,** Scriber with Two Points (One Straight and One Short Bent.)

Extra Points Available for above Scriber: { Straight Point. / Short Bent Point. / Long Bent Point.

Packing: Six in a Box.

***FOR PRICES SEE PRICE LIST***

# Carbide Tip Pocket Scriber



A handsome pocket scriber that has a replaceable scriber point with carbide tip. The point is reversible . . . protects the point when not in use.

The body is lightweight aluminum, with a diamond knurl, 2⅛″ long on the point end for a firm, positive grip while scribing. The overall length with point extended is 5½″; with point reversed, 5″. Scriber is equipped with a rugged pocket clip.

**Number**
**CT85A Individual envelopes, 6 per box**
**CT85A-12 Packed 12 on an easel display card, per card**
**CT85 Scriber Point only**

# Magnetic Pocket Scriber

A useful combination of a carbide tip scriber and a magnetic "pickup" tool.

This scriber is the same size, design and construction as the CT85A, except it has a permanent magnet in the end opposite the scriber point. Excellent for picking up small metal parts, screws, determining magnetic and non-magnetic materials, shavings and filings from slots, crevasses and other hard to reach places. Lightweight knurled aluminum body.

**Number**
**CT85B Individual envelopes, 6 per box**
**CT85B-12 Packed 12 on an easel display card, per card**
**CT85 Scriber Point only**

## Drive Pin Punches


No. 72S, Set

No. 72

Made of highest quality tool steel. Nicely shaped, hardened and polished. Body knurled to afford good finger grip.

| No. | Point Diam. Inches | Punch Length Inches | No. in Box | No. | Point Diam. Inches | Punch Length Inches | No. in Box |
|---|---|---|---|---|---|---|---|
| **72A** | 1/16 | 3 3/8 | 12 | **72E** | 3/16 | 4 1/8 | 12 |
| **72B** | 5/32 | 3 1/2 | 12 | **72F** | 7/32 | 4 3/8 | 12 |
| **72C** | 1/8 | 3 3/4 | 12 | **72G** | 1/4 | 4 5/8 | 12 |
| **72D** | 5/32 | 4 | 12 | **72H** | 5/16 | 4 7/8 | 6 |
| **72S** | Set of 8 Drive Pin Punches in Fitted Case | | | | | | 3 Sets |

## Extra Long Drive Pin Punches


No. 172S, Set

No. 172D

Lufkin Drive Pin Punches are made of high grade tool steel, hardened and ground. The body is knurled giving good finger grip. These punches are 8 inches long permitting them to be used on work inaccessible by other types of pin punches. Actual size of punches listed is approximately .005 inch undersize to permit points to enter openings of their indicated size. The knurled portion is 4½ inches long. The drive pin portion is 3½ inches long. The diameter of the knurled portion is as follows: No. 172A, 7/16 inch; Nos. 172B, 172C and 172D, ½ inch; No. 172E, 9/16 inch.

No. **172A,** Long Drive Pin Punch, 1/8-Inch Point.
No. **172B,** Long Drive Pin Punch, 3/16-Inch Point.
No. **172C,** Long Drive Pin Punch, 1/4-Inch Point.
No. **172D,** Long Drive Pin Punch, 5/16-Inch Point.
No. **172E,** Long Drive Pin Punch, 3/8-Inch Point.
No. **172S,** Set of Five Long Drive Pin Punches in Fitted Plastic Case.

Packing: Six in a Box.
Sets One in a Box.

*FOR PRICES SEE PRICE LIST*

# Center Punches

No. 71E

These Center Punches are made of fine quality tool steel. They are shaped properly and points carefully ground.

These punches are hardened and polished and have body knurled to afford good finger grip.

Available individually or in sets of six in durable fitted case.

| No. | Diameter at Top of Tapered Point Inches | Length Inches | No. in Box |
|---|---|---|---|
| 71AA | 1/16 | 3 1/8 | 12 |
| 71A | 5/64 | 3 1/2 | 12 |
| 71B | 3/32 | 3 7/8 | 12 |
| 71C | 9/64 | 4 1/4 | 12 |
| 71D | 5/32 | 4 5/8 | 12 |
| 71E | 3/16 | 5 | 6 |
| 71S | Set of 6 Punches in Fitted Case | | 3 Sets |

# No. 1671A Automatic Center Punches

## With Adjustable Stroke

An automatic center punch is almost indispensable for fine work, and handy for all marking because it assures speed as well as accuracy. Use of a hammer is entirely eliminated as this tool is operated with only one hand.

Incorporated in this Center Punch is a mechanism which automatically strikes a uniform blow. More accurate, controlled and uniform impressions are obtained using this punch than by using the hand punch and hammer method.

Marring of the work, slipping and other chances of error are avoided. The Lufkin Center Punch has an unusually wide range of adjustment, ideal for controlling the blow for various metals or other materials.

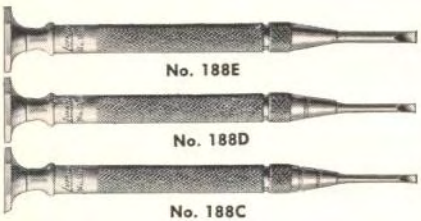
Force of the blow is regulated by screwing the knurled cap. Turning the cap down, the blow is the heaviest. As it is turned upward the blow decreases. The striking block is released automatically by downward pressure on the cap. The tension of the spring is constant and when the punch is set at any one point it will give impressions of uniform depth.

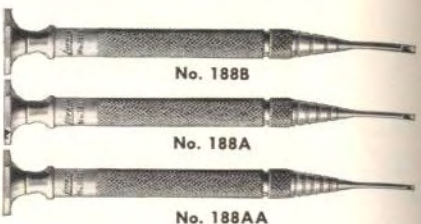
Punch is 5 inches long when set for medium stroke and ½-inch in diameter. The body is knurled and grooved affording a firm hold. All working parts are hardened properly. The point is removed easily for grinding or replacement.

No. **1671A,** Automatic Center Punches.
Extra Points only for above.

Packing: One in a Box.

# Jewelers Screw Drivers




Lufkin Jewelers Screw Drivers are designed for use by jewelers, opticians, watch repairmen, in electronic and other fine work.

They are well made of high quality steel tubing, nickel plated ¼ inch in diameter. Body and chuck grip are knurled. The head of the screw driver is a swivel that is concaved to fit the finger. It is hexagonal in shape to prevent rolling. The blades are securely held in a positive action chuck. All blades are interchangeable. Sizes of blades are designated by grooves at lower end of chuck. Five rings indicate approximate blade width of .025 inch, four rings .040 inch, three rings .055 inch, two rings .070 inch, one ring .080 inch, largest size .100 inch is plain. Available in open sizes and in sets.

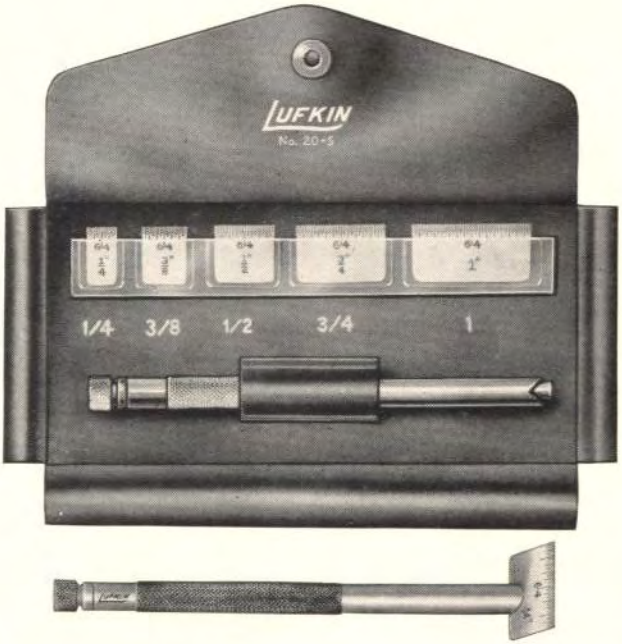
No. **188AA,** Jewelers Screw Driver; Approximate Width of Blade, .025 Inch.
No. **188A,** Jewelers Screw Driver; Approximate Width of Blade, .040 Inch.
No. **188B,** Jewelers Screw Driver; Approximate Width of Blade, .055 Inch.
No. **188C,** Jewelers Screw Driver; Approximate Width of Blade, .070 Inch.
No. **188D,** Jewelers Screw Driver; Approximate Width of Blade, .080 Inch.
No. **188E,** Jewelers Screw Driver; Approximate Width of Blade, .100 Inch.
No. **188S,** Set of Six Jewelers Screw Drivers in Fitted Vinyl Case.
Extra Blades Only for above Are Available; Specify Size.

Packing: Six in a Box. Sets: One in Box.

Memorandum

# No. 20S Set of Tempered Steel Rules

**With Holder**




Useful in general tool and die work and wherever measuring must be done in grooves, on narrow shoulders, in recesses, keyways and in places too small for an ordinary rule to enter.

These thin, tempered steel machine divided rules are carefully ground and well finished.

Length of holder permits gaging in small and out of the way places.

Blade securely locks in holder in 30° or 45° slot at any place by means of knurled locking nut.

The fitted case containing set No. 20S is 2x4½x¼-inch. Ideal for preventing loss or misplacement of these very small rules and for protecting rules and holder.

| No. | Item | Length, Inches | Graduations |
|---|---|---|---|
| **20S** | Set of Rules with Holder in Red Fitted Case | ¼, ⅜, ½ ¾, 1 | One Side 32nds, Other Side 64ths |
| **2010** | Rules Only; Specify Length as Well as No. 2010 as This Stock Number Applies to Each Rule in the Above Set | ¼, ⅜, ½ ¾, 1 | One Side 32nds, Other Side 64ths |
| **2012** | Rules Only | ½, 1 | One Side 50ths, Other Side 100ths |
| **20** | Holder Only for Above Rules | 4 | |

Packing: One Set in a Box.

***FOR PRICES SEE PRICE LIST***

# Graduations of Steel Rules

## English (Inch) Measure

Below is a detailed listing of combinations of markings which are known by graduation numbers. These graduation numbers are used in conjunction with scales, rules or combination square blades illustrated throughout the catalog.

Rules graduated in Metric and Metric and English are regularly furnished. We also can furnish scales, rules and combination square blades in various other graduations on special orders.

### No. 1 Graduation

One Edge: 10-20-50-100ths
One Edge: 12-24-48ths
One Edge: 16-32-64ths
One Edge: 14-28ths

### No. 2 Graduation

One Edge: 10-20-50-100ths
One Edge: 12-24-48ths
One Edge: 16-32-64ths
One Edge: 8ths

### No. 3 Graduation

One Edge: 32nds
One Edge: 64ths
One Edge: 10ths
One Edge: 50ths

### No. 4 Graduation

One Edge: 64ths
One Edge: 32nds
One Edge: 16ths
One Edge: 8ths

### No. 5 Graduation

One Edge: 32nds
One Edge: 64ths
One Edge: 10ths
One Edge: 100ths

### No. 6 Graduation

One Edge: 10ths
Other Edge: 50ths
Both Sides of Rule

### No. 7 Graduation

One Edge: 64ths
One Edge: 32nds
One Edge: 16ths
One Edge: 100ths

### No. 10 Graduation

One Edge: 32nds
One Edge: 64ths

### No. 11 Graduation

One Edge: 64ths
One Edge: 100ths

### No. 12 Graduation

One Edge: 50ths
One Edge: 100ths

### No. 16 Graduation

One Edge: 32nds
One Edge: 64ths
One Edge: 50ths
One Edge: 100ths

Rules that have catalog numbers with suffix "R" have "Rapid Reading" graduations. This means that each inch subdivision is numbered as follows: 32nds every 4th division; 64ths every 8th division; 50ths every 5th division; 100ths every 10th division. The Rapid Reading feature is available on rules with the following graduation numbers, **3, 4, 5, 6, 7, 10, 11** and **16.** These are listed on pages following.

# Full Flexible Steel Rules

### Approximate Thickness, 1/64th Inch
### Machine Divided

No. 2110

Thin and very flexible, spring tempered. Surfaces, edges and ends are ground. Dark markings are easy to read.

Rapid reading graduations means inch subdivisions numbered as follows: 32nds every 4th division; 64ths every 8th division; 100ths every 10th division. Staggered figures are faster and easier to locate.

| No. | Graduations Inches | Length Inches | Approx. Width Inches | Markings - Single Row Edges Read from Same End; Double Row Opposite Edges Read from Opposite Ends |
|---|---|---|---|---|
| **2103R** | No. 3 (32nds, 64ths, 10ths, 50ths) Rapid Reading | 6 | ½ | Single Row of Inch Figures |
| **2105R** | No. 5 (32nds, 64ths, 10ths, 100ths) All Lengths Rapid Reading | 6, 12<br>18, 24, 36 | ½<br>¾ | Single Row of Inch Figures<br>Double Row of Inch Figures |
| **2110** | No. 10 (32nds, 64ths) All Lengths Rapid Reading; Marked One Side Only | 6, 12 | ½<br>¾ | Single Row of Inch Figures<br>Double Row of Inch Figures |
| **2110R** | 64ths One Side; 32nds Other Side; 16ths on Upper Edge of 32nds Side. All Lengths Rapid Reading | 6 | ½ | Single Row of Inch Figures |
| **2111R** | No. 11 (64ths, 100ths) All Lengths Rapid Reading; Marked One Side Only | 6, 12 | ½ | Single Row of Inch Figures |
| **2112** | No. 12 (50ths, 100ths) Marked One Side Only | 6, 12 | ½ | Single Row of Inch Figures |

Packing: Rules 12 inches or less, Six in a Box; Larger sizes One in a Package.

# Rule Cases with Pocket Clip


Genuine leather rule cases with metal-bound edges and pocket clip or spring clasp.

Made only for rules 6 inches long. Always specify ½ or ¾-inch width.

No. **C2,** Case with Clip (For 6-Inch Rules not over ½ Inch Wide).
No. **C3,** Case with Clip (For 6-Inch Rules, ¾ Inch Wide).

Packing: Six in a Box

***FOR PRICES SEE PRICE LIST***

# Chrome Clad Full Flexible Steel Rules

**Approximate Thickness, 1/64th Inch**

**Machine Divided**

No. C2105R, Front Side

No. C2105R, Back Side

These rules have a non-glare Chrome Clad finish. Jet black figures and machine divided graduations stand out sharp and clear against the chrome white background. The Lufkin Chrome Clad finish consists of multiple electroplatings that protect and preserve the figures and graduations. It is a hard finish that resists stain, rust and tarnish caused by oils, abrasion, finger marks, moisture and other corrosive agents. The graduations are "Rapid Reading", 64ths numbered every 8th division; 32nds numbered every 4th division. Each rule is marked both sides with the most frequently used graduations on the bottom edge for convenience.

| Number | Graduations Inches | Length Inches | Approx. Width Inches | Markings |
|---|---|---|---|---|
| C2103R | No. 3 (10ths, 32nds, 64ths, 50ths) Rapid Reading | 6 | ½ | Single Row of Inch Figures |
| C2105R | No. 5 (32nds, 64ths, 10ths, 100ths) All Lengths Rapid Reading | 6, 12<br>18, 24, 36 | ½<br>¾ | Single Row of Inch Figures<br>Double Row of Inch Figures |
| C2106R | No. 6 (10ths, 50ths) Grad. One Side only. Rapid Reading | 6, 12<br>18, 24 | ½<br>¾ | Single Row of Inch Figures<br>Double Row of Inch Figures |
| C2110 | No. 10 (32nds, 64ths) Grad. One Side only. Rapid Reading | 6, 12<br>18, 24, 36, 48 | ½<br>¾ | Single Row of Inch Figures<br>Double Row of Inch Figures |
| C2110R | No. 10 (64ths One Side, 32nds, 16ths Other Side) Rapid Reading | 6 | ½ | Single Row of Inch Figures |
| C2116R | No. 16 (32nds, 64ths, 50ths, 100ths) Rapid Reading | 6, 12,<br>18, 24, 36 | ½<br>¾ | Single Row of Inch Figures<br>Double Row of Inch Figures |

# No. S2110R Flexible Stainless Steel Rules

**Machine Divided • Approximate Thickness, 1/64th Inch**

Front Side

Back Side

Genuine stainless steel, rust and stain proof. These rules are thin, very flexible and spring tempered. Surfaces, edges and ends are ground. Rapid reading graduations means inch subdivisions numbered as follows: 32nds every 4th division; 64ths every 8th division. Staggered figures are faster and easier to locate.

| No. | Graduations Inches | Length Inches | Approx. Width Inches | Markings - Edges Read from Same End |
|---|---|---|---|---|
| S2110R | 64ths on Lower Edge One Side; 32nds Lower and 16ths on Upper Edge Other Side. Rapid Reading. Markings Most Used Fall on Lower Edge | 6 | ½ | Single Row of Inch Figures on Both Sides |

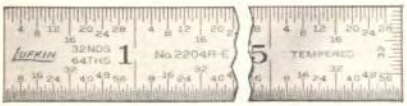
Packing: Rules 12 Inches or Less Singly in Box; Larger Sizes One in a Package.



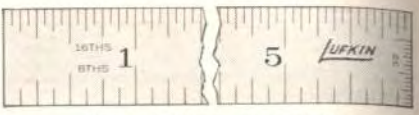
FOR PRICES SEE PRICE LIST

# Spring Tempered Steel Rules

## Machine Divided • Approximate Thickness, 3/64ths Inch




No. 2204RE, Single Row, Front Side




No. 2204RE, Single Row, Back Side

Rules of this weight are extensively used. They are accurately graduated on both edges of both sides and have clear, dark lines and figures, easy to read. All are edge, surface and end ground.

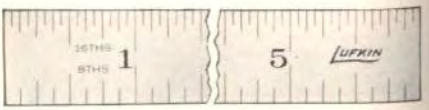
Rapid reading graduations means inch subdivisions numbered as follows: 32nds every 4th division; 64ths every 8th division; 100ths every 10th division. Staggered figures are faster and easier to locate.

| No. | Graduations Inches | Length Inches | Approx. Width Inches | Markings - Single Row Edges Read from Same End; Double Row Opposite Edges Read from Opposite Ends |
|---|---|---|---|---|
| 2204R | No. 4 (8ths, 16ths, 32nds, 64ths) All Lengths Rapid Reading | 1 | ½ | Single Row of Inch Figures |
| | | 2 | ½ | Single Row of Inch Figures |
| | | 3 | ½ | Single Row of Inch Figures |
| | | 4 | ⅝ | Single Row of Inch Figures |
| | | 6 | ¾ | Single Row of Inch Figures |
| | | 9 | ⅞ | Double Row of Inch Figures |
| 2207R | No. 7 (16ths, 32nds, 64ths, 100ths) All Lengths Rapid Reading (2207R available in 6–12–18–24–36–48″ lengths only) | 12 | 1 | Double Row of Inch Figures |
| | | 18 | 1¼ | Double Row of Inch Figures |
| | | 24 | 1¼ | Double Row of Inch Figures |
| | | 36 | 1¼ | Double Row of Inch Figures |
| | | 48 | 1¼ | Double Row of Inch Figures |
| 2204RE | No. 4 (8ths, 16ths, 32nds, 64ths) One End of Each Side Graduated to 32nds. All Lengths Rapid Reading | 6 | ¾ | Single Row of Inch Figures |
| | | 12 | 1 | Double Row of Inch Figures |

# No. S2204R Stainless Steel Rules

## Machine Divided • Approximate Thickness, 3/64ths Inch


Front Side




Back Side

Genuine stainless steel, rust and stain proof. These rules are spring tempered. Surfaces, edges and ends are ground. Accurately and clearly marked on both edges of both sides.

Rapid reading graduations means inch subdivisions numbered as follows: 32nds every 4th division; 64ths every 8th division. Staggered figures are faster and easier to locate.

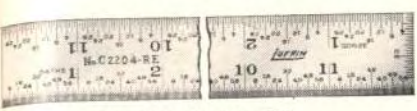
| No. | Graduations Inches | Length Inches | Approx. Width Inches | Markings - Single Row Edges Read from Same End; Double Row Opposite Edges Read from Opposite Ends |
|---|---|---|---|---|
| S2204R | No. 4 (8ths, 16ths, 32nds, 64ths) All Lengths Rapid Reading | 6 | ¾ | Single Row of Inch Figures |
| | | 12 | 1 | Double Row of Inch Figures |
| | | 18, 24, 36, 48 | 1¼ | Double Row of Inch Figures |

Packing: Rules 12 Inches or Less, Six in a Box; Larger, One in a Package.

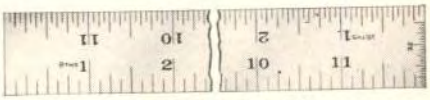
FOR PRICES SEE PRICE LIST

# Chrome Clad Spring Tempered Steel Rule

## Machine Divided • Approximate Thickness, 3/64ths Inch



No. C2204RE, Front Side



No. C2204RE, Back Side

These rules have a non-glare Chrome Clad finish. Jet black figures and machine divided graduations stand out sharp and clear against the chrome white background. The Lufkin Chrome Clad finish consists of multiple electroplatings that protect and preserve the figures and graduations. It is a hard finish that resists stain, rust and tarnish caused by oils, abrasion, finger marks, moisture and other corrosive agents. The graduations are "Rapid Reading", 64ths numbered every 8th division; 32nds numbered every 4th division. Each rule is marked both sides with the most frequently used graduations on the bottom edge for convenience.

| No. | Graduations Inches | Length Inches | Approx. Width Inches | Markings - Single Row Edges Read from Same End; Double Row Opposite Edges Read from Opposite Ends |
|---|---|---|---|---|
| C2202 | No. 2 (10ths, 20ths, 50ths, 100ths, 12ths, 24ths, 48ths, 8ths, 16ths, 32nds, 64ths) | 6 | 3/4 | Single Row of Inch Figures |
| | | 12 | 1 | Double Row of Inch Figures |
| C2204R | No. 4 (8ths, 16ths, 32nds, 64ths) Rapid Reading | 6 | 3/4 | Single Row of Inch Figures |
| | | 12 | 1 | Double Row of Inch Figures |
| | | 18 | 1 1/4 | Double Row of Inch Figures |
| | | 24 | 1 1/4 | Double Row of Inch Figures |
| | | 36 | 1 1/4 | Double Row of Inch Figures |
| | | 48 | 1 1/4 | Double Row of Inch Figures |
| C2204RE | No. 4 (8ths, 16ths, 32nds, 64ths) One End, Each Side Graduated to 32nds. Rapid Reading | 6 | 3/4 | Single Row of Inch Figures |
| | | 12 | 1 | Double Row of Inch Figures |
| C2206R | No. 6 (10ths, 50ths) Rapid Reading | 6 | 3/4 | Single Row of Inch Figures |
| | | 12 | 1 | Double Row of Inch Figures |
| | | 18 | 1 1/4 | Double Row of Inch Figures |
| | | 24 | 1 1/4 | Double Row of Inch Figures |
| | | 36 | 1 1/4 | Double Row of Inch Figures |
| | | 48 | 1 1/4 | Double Row of Inch Figures |
| C2207R | No. 7 (16ths, 32nds, 64ths, 100ths) Rapid Reading | 6 | 3/4 | Single Row of Inch Figures |
| | | 12 | 1 | Double Row of Inch Figures |
| | | 18, 24 | 1 1/4 | Double Row of Inch Figures |
| C2216R | No. 16 Graduations: 32nds, 64ths, 50ths and 100ths inch. | 6 | 3/4 | Single Row of Inch Figures |
| | | 12 | 1 | Double Row of Inch Figures |

# Narrow Steel Rules

## Machine Divided • Approximate Thickness, 3/64ths Inch


These narrow stiff Rules are spring tempered, 3/16 inch wide and can be readily inserted in small openings. Edge surface and end ground. Accurately graduated on one edge of each side. Clear, dark lines and figures. These Rules are used as blades in some styles of depth gages.

| No. | Graduations Inches | Length Inches | Approx. Width Inches | Markings - Edges Read from Same End |
|---|---|---|---|---|
| **2310** | No. 10 (32nds and 64ths Inch) | 4, 6, 12 | 3/16 | Single Row of Inch Figures |
| **2311** | No. 11 (64ths and 100ths Inch) | 6 | 3/16 | Single Row of Inch Figures |

### Chrome Clad Narrow Pattern Steel Rule

| | | | | |
|---|---|---|---|---|
| **C2310** | No. 10 (32nds, 64ths) | 6 | 3/16 | Single Row of Inch Figures |

Packing: 6 in a Box.

## Narrow Hook Rule with Removable and Reversible Hook


| No. | Graduation Inches | Length Inches | Approx. Width Inches | Approx. Thick. Inches | Markings - Opposite Edges Read from Same End |
|---|---|---|---|---|---|
| **H2310** | No. 10 (32nds and 64ths) | 6, 12 | 3/16 | 3/64 | Single Row of Inch Figures |

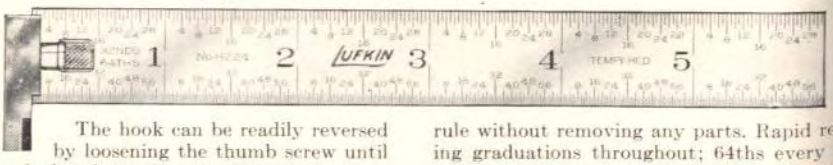
### Chrome Clad Narrow Hook Rule

| | | | | | |
|---|---|---|---|---|---|
| **CH2310** | No. 10 (32nds and 64ths) | 6 | 3/16 | 3/64 | Single Row of Inch Figures |

Packing: 3 in a Box.

## Hook Rule with Reversible Hook

### Approximate Thickness, 3/64ths Inch




The hook can be readily reversed by loosening the thumb screw until the hook slot clears the rule. This feature permits the hook to be turned to either edge of the rule without removing any parts. Rapid reading graduations throughout; 64ths every 8th division; 32nds every 4th division. Staggered figures are faster and easier to locate.

| No. | Graduations Inches | Length Inches | Approx. Width Inches | Marking - Opposite Edges Read from Same End |
|---|---|---|---|---|
| **H224R** | No. 4 (8ths, 16ths, 32nds, 64ths) All Lengths Rapid Reading | 6 | 3/4 | Single Row of Inch Figures |

### Chrome Clad Hook Rule

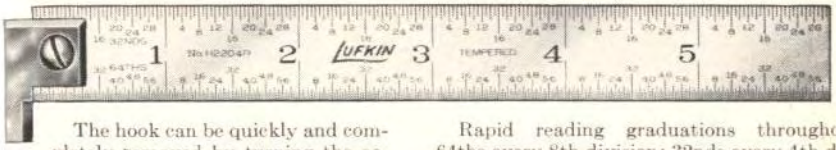
| | | | | |
|---|---|---|---|---|
| **CH224R** | No. 4 (8ths, 16ths, 32nds, 64ths) All Lengths Rapid Reading | 6 | 3/4 | Single Row of Inch Figures |
| | | 12 | 1 | Single Row of Inch Figures |

Packing: 3 in a Box.

FOR PRICES SEE PRICE LIST

## Hook Rule with Removable and Reversible Hook

**Approximate Thickness, 3/64ths Inch**




The hook can be quickly and completely removed by turning the eccentric stud a half turn. It can also be reversed for use on opposite edge. Zero falls at inside end of hook.

Rapid reading graduations throughout; 64ths every 8th division; 32nds every 4th division. Staggered figures are faster and easier to locate.

| No. | Graduations Inches | Length Inches | Approx. Width Inches | Markings - Single Row Edges Read from Same End; Double Row Opposite Edges Read from Opposite Ends |
|---|---|---|---|---|
| H2204R | No. 4 (8ths, 16ths, 32nds, 64ths) All Lengths Rapid Reading | 6 | ¾ | Single Row of Inch Figures |
| | | 9 | ⅞ | Single Row of Inch Figures |
| | | 12 | 1 | Single Row of Inch Figures |
| | | 18, 24, 36 | 1¼ | Double Row of Inch Figures |

## Chrome Clad Hook Rule

| | | | | |
|---|---|---|---|---|
| CH2204R | No. 4 (8ths, 16ths, 32nds, 64ths) All Lengths Rapid Reading | 6 | ¾ | Single Row of Inch Figures |
| | | 12 | 1 | Single Row of Inch Figures |
| | | 18, 24 | 1¼ | Double Row of Inch Figures |

Packing: 12 Inches and Under, Three in a Box. Others, One in a Package.

## "Allen" Improved Semi-Flexible Steel Rules

**Easiest to Read • Machine Divided • Approximate Thickness, 1/50th Inch**


The numbering and marking of this rule is unique, making it easy to read to 64ths of an inch.

One side carries 64ths graduations only. One edge is marked with the odd 64ths every fourth 64th commencing with number 1 and reading 1, 5, 9, 13, etc., in each inch. The other edge carries the remaining odd 64ths commencing with 3, 7, 11, 15, etc. Each 64th graduation is numbered for fast and accurate reading. The other side is marked one edge in 16ths, the other edge in 32nds inch for measuring the even 64ths.

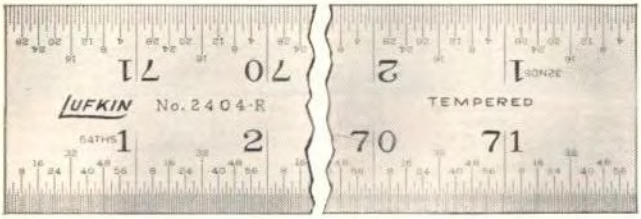
Furnished in 6-inch length. Approx. width, ¾ inch.

| No. | Length Inches | Type of Finish | |
|---|---|---|---|
| 2608 | 6 | Regular | "Allen" Improved Semi-Flexible Rule |
| C2608 | 6 | Chrome Clad | "Allen" Improved Semi-Flexible Rule |

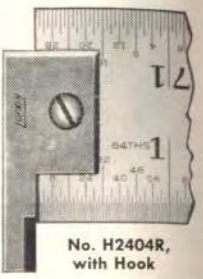
Packing: Six in a Box.

# Heavy Spring Tempered Steel Rules

**Machine Divided • Approx. Thickness, 1/10th Inch**




No. 2404R, without Hook




No. H2404R, with Hook

A wide, stiff rule, popular in many industries where longer measurements must be precisely taken. Accurately and clearly marked on both edges of both sides. Prominent figures are easy to read. Surfaces, ends and edges are ground.

The hook of No. H2404R rules is made of hardened steel. It can be quickly and completely removed by turning the eccentric stud a half turn. It can also be reversed for use on opposite edge. Zero falls at inside end of hook.

Rapid Reading graduations; 64ths numbered every 8th dimension; 32nds every 4th dimension.

| No. | Graduations Inches | Length Inches | Approx. Width Inches | Markings - Opposite Edges Read from Opposite Ends |
|---|---|---|---|---|
| **2404R H2404R** | No. 4 (8ths, 16ths, 32nds, 64ths) | 24, 36, 48, 60, 72 | 1½ | Double Row of Inch Figures |
| **2416R** | No. 16 (32nds, 64ths, 50ths, 100ths) All Lengths Rapid Reading | 24, 36, 48, 60, 72 | 1½ | Double Row of Inch Figures |

# Chrome Clad Heavy Spring Tempered Steel Rules

**With Chrome Clad Finish**

| No. | Graduations Inches | Length Inches | Approx. Width Inches | Markings - Opposite Edges Read from Opposite Ends |
|---|---|---|---|---|
| **C2404R CH2404R** | No. 4 (8ths, 16ths, 32nds, 64ths) | 24, 36, 48, 60, 72, 96, 120, 144 | 1½ | Double Row of Inch Figures |
| **C2416R** | No. 16 (32nds, 64ths, 50ths, 100ths) All Lengths Rapid Reading | 24, 36, 48, 60, 72, 96, 120, 144 | 1½ | Double Row of Inch Figures |

Packing: One in a Package.

**Note: Longer Lengths Available—Price on Application.**

# Semi-Flexible Steel Rules

**Machine Divided • Approximate Thickness, 1/50 Inch**


**No. 2604RE, Front Side**


**No. 2604RE, Back Side**

Semi-Flexible Steel Rules are made for those mechanics who prefer a rule in between the flexible and stiff pattern. Accurately graduated on both edges of both sides with surfaces, ends and edges ground.

Rapid reading graduations means inch subdivisions numbered as follows: 32nds every 4th division; 64ths every 8th division; 100ths every 10th division. Staggered figures are faster and easier to locate.

| No. | Graduations Inches | Length Inches | Approx. Width Inches | Markings - Single Row Edges Read from Same End; Double Row Opposite Edges Read from Opposite Ends |
|---|---|---|---|---|
| 2604RE | No. 4 (8ths, 16ths, 32nds, 64ths) All Lengths Rapid Reading; One End of Each Side Graduated to 32nds | 6<br>12 | ¾<br>1 | Single Row of Inch Figures<br>Double Row of Inch Figures |

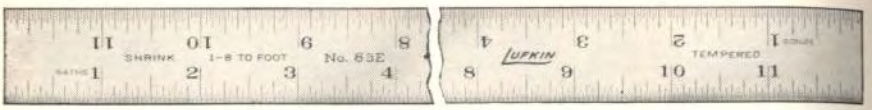
# Chrome Clad Semi-Flexible Steel Rules

| No. | Graduations Inches | Length Inches | Approx. Width Inches | Markings - Single Row Edges Read from Same End; Double Row Opposite Edges Read from Opposite Ends |
|---|---|---|---|---|
| C2603R | No. 3 (32nds, 64ths, 10ths, 50ths) Rapid Reading | 6<br>12<br>18<br>24 | ¾<br>1 | Single Row of Inch Figures<br>Double Row of Inch Figures |
| C2604RE | No. 4 (8ths, 16ths, 32nds, 64ths) All Lengths Rapid Reading; One End of Each Side Graduated to 32nds | 6<br>12 | ¾<br>1 | Single Row of Inch Figures<br>Double Row of Inch Figures |
| C2607R | No. 7 (16ths, 32nds, 64ths, 100ths) All Lengths Rapid Reading | 6<br>12 | ¾<br>1 | Single Row of Inch Figures<br>Double Row of Inch Figures |

Packing: Rules 12 Inches or Less, Six in a Box. Larger, One in a Package.

# Steel Shrink Rules

## Machine Divided • Approximate Thickness 3/64ths Inch




No. 83E

Graduation No. 4: 8ths, 16ths, 32nds, 64ths shrinkage inch.

Furnished in 12 and 24-inch lengths.

Graduations allow for shrinkage indicated.

The 12-inch and longer rules have double row of inch figures, opposite edges reading from opposite ends.

Approximate width: 12-inch rule, 1 inch; 24-inch rule, 1¼ inches.

**Always specify length as well as No.**

| No. | Shrink per Foot | No. | Shrink per Foot | No. | Shrink per Foot |
|---|---|---|---|---|---|
| **83C** | 1/10 | **83F** | 5/16 | **83H** | 5/16 |
| **83E** | 1/8 | **83G** | 1/4 | **83R** | 5/32 |

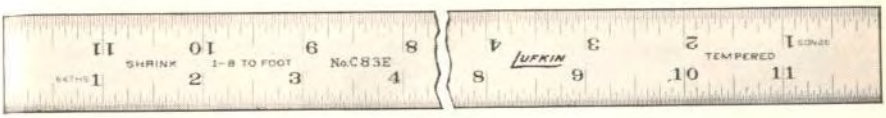
## Average Shrinkage of Castings

Table gives the standard shrinkage of different metals, but some consideration must be given to the size and shape of the casting. Thick castings will shrink less under the same conditions, and thinner castings more than standard. The quality of the material and the manner of moulding and cooling will also make a difference in shrinkages.

| Metal | Shrinkage per Foot Inches | Metal | Shrinkage per Foot Inches |
|---|---|---|---|
| Cast Iron | 1/8 | Aluminum | 3/16 |
| Malleable Iron | 1/8 | Copper | 5/16 |
| Steel | 1/4 | Lead | 5/16 |
| Brass | 5/16 | Zinc | 5/16 |
| Tin | 1/32 | Magnesium | 15/32 |

# Chrome Clad Steel Shrink Rules

**Machine Divided • Approximate thickness, 3/64ths Inch**




**No. C83E**

Graduation No. 4: 8ths, 16ths, 32nds, 64ths shrinkage inch.

Furnished in 12 and 24-inch lengths.

Graduations allow for shrinkage indicated.

Rules have double row of inch figures, opposite edges reading from opposite ends.

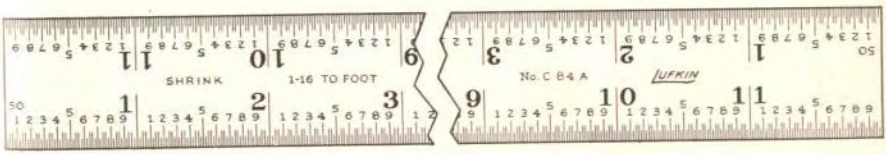
Approximate width: 12-inch rule, 1 inch; 24-inch rule, 1¼ inches.

**Always specify length as well as No.**

| No. | Shrink per Foot | No. | Shrink per Foot | No. | Shrink per Foot |
|---|---|---|---|---|---|
| **C83A** | 1/16 | **C83G** | 1/4 | **C83P** | 9/64 |
| **C83C** | 1/10 | **C83H** | 5/16 | **C83R** | 5/32 |
| **C83E** | 1/8 | **C83J** | 7/16 | **C83S** | 7/32 |
| **C83F** | 3/16 | **C83K** | 3/8 | **C83T** | 9/32 |

# Chrome Clad Steel Shrink Rules

**Decimal Graduations • Machine Divided**




**No. C84A**

These rules are the same as the No. 83 Series except with decimal graduations. Rapid reading graduations throughout; 50ths numbered every 5th division; 10ths every division.

Graduation No. 6: 10ths (.10) both edges of one side; 50ths (.02) both edges of other side.

Furnished in 12 and 24-inch lengths. Has double row of inch figures, opposite edges reading from opposite ends.

**Always specify length as well as No.**

| No. | Shrink per Foot | No. | Shrink per Foot | No. | Shrink per Foot |
|---|---|---|---|---|---|
| **C84A** | 1/16 | **C84F** | 3/16 | **C84R** | 5/32 |
| **C84C** | 1/10 | **C84G** | 1/4 | **C84T** | 9/32 |
| **C84E** | 1/8 | **C84H** | 5/16 | | |

Packing: 6 and 12-Inch Rules Six in a Box.
24-Inch Rules One in a Package.

# No. C2220 Chrome Clad Gap Rule

C2220 GAP RULE


ENLARGED SEGMENT

A Chrome Clad, machine divided rule for those applications requiring the measurement of width or gap on a plane surface to thousandths inch. Has 50 sets of parallel lines with number of thousandths gap between line centers indicated. Range is from .003″ to .045″ by .001″; .045″ to .055″ by .005″; .055″ to .095″ by .010″ and .100″.

**No. C2220** Chrome Clad Gap Rule.

# Spring Tempered Steel Rule

## Machine Divided—English Pattern

Accurately graduated on both edges of both sides. Clear lines and figures easy to read. Edge, surface and end ground. One side graduated 10ths, 12ths, 24ths, 40ths, 48ths, 50ths, 96ths and 100ths, other side 16ths, 32nds, 64ths. Millimeters and ½ millimeters.

**No. 2707**—6 in.

Packing: 6 in a box

# No. 99 Decimeter Rule

## A Key to the Metric System


Gives a most comprehensive, visual demonstration of metric lengths.

Made of tempered steel, carefully ground. Accurately machine divided one edge, one side in centimeters and millimeters. Carries on both sides interesting facts regarding the metric system.

Furnished with metal-bound leather case.

Length, 10 centimeters (1 decimeter). Width, 1 centimeter. Thickness, 1 millimeter.

**No. 99,** Decimeter Rule with Case.

Packing: 12 in a Box.

***FOR PRICES SEE PRICE LIST***

# Chrome Clad Steel Rules
# Metric and Metric-English Steel Rules

### Machine Divided


**No. 2200M**

Made of high grade, spring tempered steel. They are accurately machine divided and have clear, dark, sunken graduation lines and figures, easy to read. They are edge, surface and end ground.

**Stiff Spring Tempered Rules**

| No. | Graduations | Length | Approx. Width Mm. | Approx. Thick. Mm. |
|---|---|---|---|---|
| C2200M | Marked Both Sides, Three Edges in Mm.; One Edge in ½ Mm. | 15 Cm.<br>30 Cm.<br>50 Cm., 1 Meter | 18<br>24<br>32 | 1 (3/64ths Inch)<br>1 (3/64ths Inch)<br>1 (3/64ths Inch) |
| C2200ME | Marked Both Sides, One Side Mm. and 64ths Inch; One Side ½ Mm. and 32nds Inch | | | |

**Full Flexible Spring Tempered Rules**

| | | | | |
|---|---|---|---|---|
| C2100M | Marked One Side Only, Upper Edge Mm.; Lower Edge ½ Mm. | 15 Cm.<br>30 Cm.<br>50 Cm. | 12<br>12<br>18 | 4/10ths (1/64th Inch)<br>4/10ths (1/64th Inch)<br>4/10ths (1/64th Inch) |
| C2100ME | Marked One Side Only, Upper Edge ½ Mm.; Lower Edge 64ths Inch | 15 Cm.<br>30 Cm. | 12<br>12 | 4/10ths (1/64th Inch)<br>4/10ths (1/64th Inch) |

**Narrow Spring Tempered Rules—Regular Steel**

| | | | | |
|---|---|---|---|---|
| 2300M | Marked Both Sides, One Edge, One Side Mm.; Other Side ½ Mm. | 15 Cm. | 5 | 1 (3/64ths Inch) |

Packing: 5, 10, 15, 20 and 30-Cm. Rules Six in a Box.
50 Cm. and 1-Meter Rules One in a Package.

**Note:** For Hook Rules marked Metric and English specify as No. H2200M and ME or No. H2300M and ME.

# English-Metric Spring Tempered Steel Rules

### Machine Divided • Approximate Thickness 3/64ths Inch


Marked: One side 16ths, 32nds, 64ths; 10ths, 20ths, 50ths, 100ths inch. Other side, one edge millimeters; other edge ½ millimeters. Chrome clad finish.

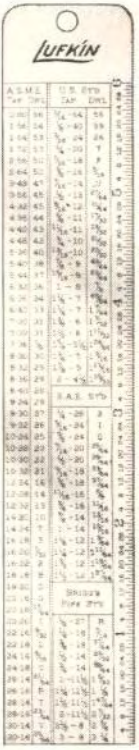
| No. | Length Inches | Width Inches |
|---|---|---|
| C3227 | 6<br>12 | ¾<br>1 |

Packing: 6 in a Box.



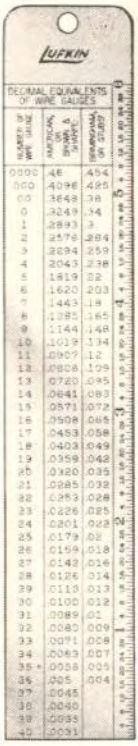
FOR PRICES SEE PRICE LIST

# Mechanics Steel Reference Tables




No. 97½, Front Side


No. 98, Front Side




No. 98, Back Side

These tables are handy for machinists, tool and die makers, in fact anyone making frequent reference to decimal equivalents, tap and drill sizes or wire gages. They are durable and retain their legibility permanently. Can be used as a rule.

Made of semi-flexible, spring tempered steel, 1¼x6¾ inches, with hole for hanging. Accurately ground and graduated with clear dark figures and lines, easy to read. Rapid reading graduations: 64ths numbered every 8th division; 32nds every 4th division.

**No. 97½.** One side marked with table of U.S., A.S.M.E., S.A.E., and Briggs Pipe Standard machine screw tap and drill sizes, including fractional and numbered sizes. A 6-inch rule graduated to 32nds inch. Other side marked with decimal equivalents of fractions from 1 to 63/64ths. A 6-inch rule graduated to 64ths inch.

**No. 98.** One side marked with decimal equivalents of fractions from 1 to 63/64ths. A 6-inch rule graduated to 64ths inch. Other side marked with decimal equivalents of wire gages. A 6-inch rule graduated to 32nds inch.

No. **97½,** Steel Reference Table and Rule

No. **98,** Steel Reference Table and Rule.

Packing: 6 in a Box.

**Note:** Cases furnished at small extra charge.

***FOR PRICES SEE PRICE LIST***

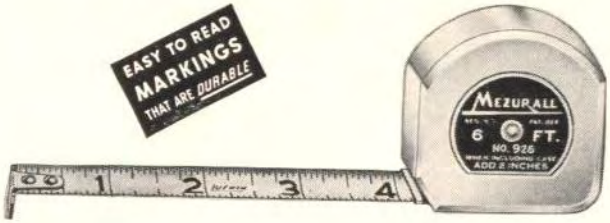
Memorandum

# Chrome Clad MEZURALL Tape-Rules

(Patented)

**Industrial Quality**

**Manually Operated • ½-Inch Wide Blade**




The most practical and compact all purpose Tape-Rule for industry, construction or home use.

**Easy to read.** Jet black markings against Chrome White background. Durable markings are bonded to the steel and recessed below the hard chrome surface.

**Surface of line will not chip, peel or crack.** Rust resistant.

**Self-adjusting end hook** assures accurate butt end and hook over measurements as the hook slides to compensate for its thickness.

**Attractive case** is made of steel, heavily plated. Steel case wears longer and is not easily damaged or broken. Has gloss purple, flush inset sideplates.

Blade is stiffened by concave forming and will project unsupported. Blade is manually operated and runs smoothly in and out of case. Balanced construction prevents blade creeping into case when blade is withdrawn. Blade is held in case by a stop catch guarding against end breakage when not in use. Blade is replaceable; no tools necessary.

To take an inside measurement: butt square back edge of case against one side of opening being measured; extend the blade to the other limit; the sliding action of the patented hook assures accurate measuring; add 2 inches to the reading at case opening, case being 2 inches wide.

| Length Feet | Markings, One Side Only: Both Edges, Consecutive Inches to 16ths; First 12 Inches of Upper Edge Graduated to 32nds; Graduations Read Left to Right | | Feet, 10ths and 100ths of Feet on Upper Edge; Feet, Inches and 16ths on Lower Edge | | Millimeters on Upper Edge; Inches to 16ths on Lower Edge | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | Length | | | |
| | Tape-Rule No. | Replacement Blade No. | Tape-Rule No. | Replacement Blade No. | Meters | Inches | Tape-Rule No. | Replacement Blade No. |
| 6 | **C926** | **RC6** | ..... | ..... | 2 | 78¾ | **C926ME** | **RC6ME** |
| 8 | **C928** | **RC8** | ..... | ..... | 3 | 118⅛ | **C9210ME** | **RC10ME** |
| 10 | **C9210** | **RC10** | **C9210D** | **RC10D** | .. | .... | ..... | ..... |
| 12 | **C9212** | **RC12** | **C9212D** | **RC12D** | .. | .... | ..... | ..... |

**Weight per Carton:** 6-ft., 1½ lb.; 8-ft., 1⅝ lb.; 10-ft., 1¾ lb.; 12-ft., 1⅞ lb.

Packing: Six in a Carton.

***FOR PRICES SEE PRICE LIST***

# Chrome Clad Super MEZURALL Tape-Rules

(Patented)

**Industrial Quality**

**Manually Operated • Heavy Duty ¾-Inch Wide Blade**


The ¾-inch wide rigid blade was developed primarily for extended overhead measurements and difficult reach-in measurements. It will extend further horizontally and vertically and is handy for taking overhead measurements.

**This tape has a diamond indicating mark at each 16-inch interval to assist those in the building trades in spacing of rafters, studding, etc., on 16-inch centers.**

**Easy to read.** Jet black markings against Chrome White background. Durable markings are bonded to the steel and recessed below the hard chrome surface.

**Surface of line will not chip, peel or crack.** Rust resistant.

**Heavy duty self-adjusting end hook** assures accurate butt end and hooked over measurements as the hook slides to compensate for its thickness. End hook is long with serrated face, assuring a good grip on hooked over measurements.

**Attractive case** is made of precision die cast alloy metal. They are much stronger, more durable and lighter in weight than many other types of die castings. Has gloss flush inset side plates.

Blade is replaceable; no tools necessary.

To take an inside measurement: butt square back edge of case against one side of opening being measured; extend the blade to the other limit; the sliding action of the patented hook assures accurate measuring; add 2 in. to the reading at case opening, case being 2 in. wide.

| Markings, One Side Only | | | |
|---|---|---|---|
| *Upper Edge, Feet, Inches and 16ths with "Instantaneous" Readings; Lower Edge, Consecutive Inches to 16ths; Graduations Read from Left to Right | | | |
| Length Feet | Tape-Rule No. | Replacement Blade No. | Weight per Carton Pounds |
| 10 | C9310 | RC310 | 2½ |
| 12 | C9312 | RC312 | 2⅝ |

*Upper edge has each preceding foot number repeated at each inch throughout the tape. The total reading is at the point of measurement. Easy conversion from feet and inches to consecutive inches and vice versa is permitted. The first 12 inches of lower edge is graduated to 32nds. 16-inch centers are indicated with a diamond.

Packed in Individual Box; Six in a Carton.



FOR PRICES SEE PRICE LIST

# Chrome Clad MEZURALL Tape Rules

(Patented)


## Decimal Graduated Tape Rules

### 10ths and 50ths of an inch

Many industries such as automotive, aircraft, electronics, etc. are standardizing on decimal measuring. In addition to the regular machine divided steel rules (No. 6 graduation), Lufkin now offers a Chrome Clad Mezurall tape rule with decimal graduations. The top edge of the blade is graduated in 10ths (.10) of an inch. The first foot of the lower edge of the blade is graduated in 50ths (.02) of an inch, balance of lower edge is graduated in 10ths. The 50ths graduations are Rapid Reading; each fifth division is numbered for faster and easier reading. Made in accordance with approved American Standard specifications.

**Easy to read.** Jet black markings against Chrome White background. Durable markings are bonded to the steel and recessed below the hard chrome surface.

**Surface of line will not chip, peel or crack.** Rust resistant.

**Self-adjusting end hook** assures accurate butt end and hook over measurements as the hook slides to compensate for its thickness.

**Attractive case** is made of steel, heavily plated. Steel case wears longer and is not easily damaged or broken. Has gloss red, flush inset sideplates.

| Length Feet | Markings, One Side Only<br>Both edges, consecutive inches to 10ths. First 12 inches of Lower edge graduated to 50ths. Graduations read left to right | |
|---|---|---|
| | Tape Rule No. | Replacement Blade No. |
| 10 | **C9210X** | **RC10X** |
| 12 | **C9212X** | **RC12X** |

**Weight per Carton:** 10-ft. 1¾ lb.; 12-ft. 1⅞ lb.

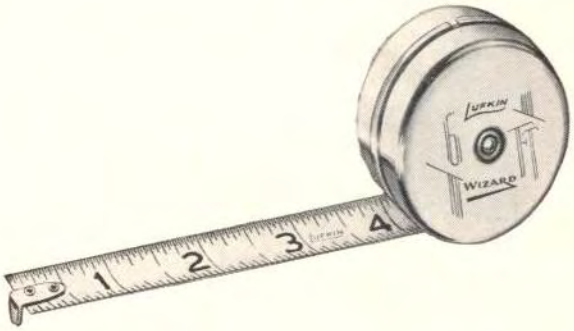
Packing: One to a Card; Six in a Carton.

*FOR PRICES SEE PRICE LIST*

# Nickel Plated WIZARD Tape-Rules

(Patented)

**Manually Operated • 5/8-Inch Wide Blade**




Popular in shops and with mechanics. Handles nicely and has the durability required for constant use.

Steel blade is stiffened by concave forming, so can be projected unsupported, like a rule, to walls, ceilings or into openings. It will also flex to accurately measure circles, around corners, etc. Blade is nickel plated and has prominent, dark, contrasting lines and figures, easy to read. Blade is easily replaced; no tools necessary.

Blade is manually withdrawn from and returned to case; works smoothly and remains set at any length withdrawn. It has hook at first end. Handy for measuring within or beyond arms reach.

Sturdy, metal case is nickel plated and has flat edges. Diameter of 6 and 8-foot cases is 2 inches.

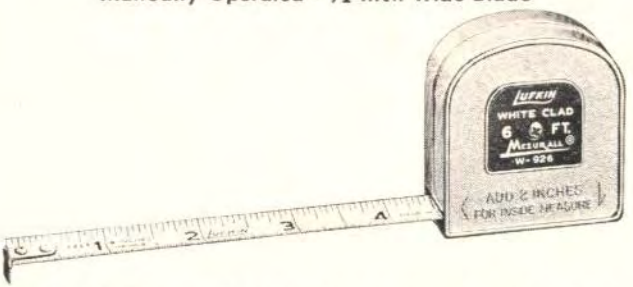
| Markings, One Side Only | | | |
|---|---|---|---|
| Length | | Inches to 16ths, Both Edges; First 6 Inches Upper Edge to 32nds | |
| Feet | Inches | Tape-Rule No. | Refill No. |
| 6 | 72 | **686** | **RN86** |
| 8 | 96 | **688** | **RN88** |
| 10 | 120 | **6810** | **RN810** |

Packing: One in a Box; Six in a Carton. 10 Foot Size One in a Box.

# White Clad MEZURALL Tape-Rules

(Patented)

## Manually Operated • ½-Inch Wide Blade




A practical all purpose Tape-Rule for construction and home use.

**Easy to read.** Jet black markings against snow white background. Most durable white finish over bonderized tempered steel blade.

**Self-adjusting end hook** assures accurate butt end and hook over measurements as the hook slides to compensate for its thickness.

**Red foot figures**—for faster, accurate reading.

**Attractive case** is made of precision die cast lightweight alloy metal.

**This tape has a diamond indicating mark at each 16-inch interval to assist those in the building trades in spacing of rafters, studding, etc., on 16-inch centers.**

**Handy durable plastic holder** for attaching to belt furnished free.

Blade is stiffened by concave forming and will project unsupported. Blade is manually operated and runs smoothly in and out of case. Blade is replaceable; no tools necessary.

To take an inside measurement: Butt square edge of case against one side of opening being measured; extend the blade to the other limit; the sliding action of the patented hook assures accurate measuring; add 2 inches to the reading at case opening, case being 2 inches wide.

Markings, One Side Only

| Length Feet | *Upper Edge, Feet, Inches and 16ths with "Instantaneous" Readings; Lower Edge, Consecutive Inches to 16ths; Graduations Read from Left to Right | | Feet, 10ths and 100ths of Feet on Upper Edge; Feet, Inches and 16ths on Lower Edge | | Millimeters on Upper Edge; Inches to 16ths on Lower Edge | | | |
|---|---|---|---|---|---|---|---|---|
| | Tape-Rule No. | Replacement Blade No. | Tape-Rule No. | Replacement Blade No. | Length Meters | Length Inches | Tape-Rule No. | Replacement Blade No. |
| 6 | W926 | RW6 | | | 2 | 78¾ | W926ME | RW6ME |
| 8 | W928 | RW8 | | | .. | ..... | ..... | ..... |
| 10 | W9210 | RW10 | W9210D | RW10D | 3 | 118⅛ | W9210ME | RW10ME |
| | *W9210B | *RW10B | | | .. | ..... | ..... | ..... |
| 12 | W9212 | RW12 | W9212D | RW12D | .. | ..... | ..... | ..... |
| | †W9212C | †RW12C | | | .. | ..... | ..... | ..... |
| | ‡W9212R | | | | .. | ..... | ..... | ..... |

**Weight per carton:** 6-ft., 1¼ lb.; 8-ft., 1½ lb.; 10-ft., 1¾ lb.; 12-ft., 1⅞ lb.

‡Same as above except Graduations Read from Right to Left.

*Same as above, but graduated on both sides of blade.

†Similar to above except marked consecutive inches.

*Upper edge has each preceding foot number repeated at each inch throughout the tape. The total reading is at the point of measurement. Each conversion from feet and inches to consecutive inches and vice versa is permitted. The first 12 inches of lower edge is graduated to 32nds.

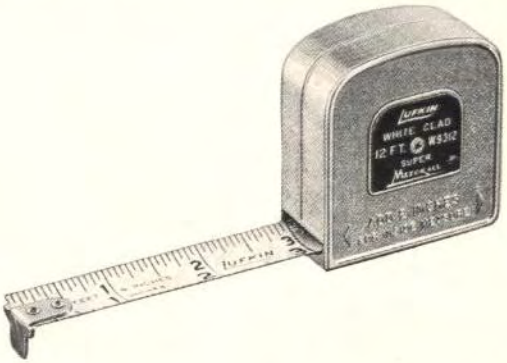
Packing: One to a Display Card; Six in a Carton.

FOR PRICES SEE PRICE LIST

# White Clad Super MEZURALL Tape-Rules

(Patented)

## Manually Operated • Heavy Duty ¾-Inch Wide Blade




The ¾-inch wide rigid blade was developed primarily for extended overhead measurements and difficult reach-in measurements. It will extend further horizontally and vertically and is handy for taking overhead measurements.

**This tape has a diamond indicating mark at each 16-inch interval to assist those in the building trades in spacing of rafters, studding, etc., on 16-inch centers.**

**Easy to read.** Jet black markings against Snow White background. Durable white finish over bonderized tempered steel blade. Red foot figures—for faster, accurate reading.

**Heavy duty self-adjusting end hook** assures accurate butt end and hooked over measurements as the hook slides to compensate for its thickness. End hook is long with serrated face, assuring a good grip on hooked over measurements.

**Attractive case** is made of precision die cast alloy metal. They are much stronger, more durable and lighter in weight than many other types of die castings. Has flush inset sideplates. Blade is replaceable; no tools necessary.

**Removable belt clip.** Handy clip permits carrying on belt or waist band.

To take an inside measurement: butt square back edge of case against one side of opening being measured; extend the blade to the other limit; the sliding action of the patented hook assures accurate measuring; add 2 inches to the reading at case opening, case being 2 inches wide.

Markings, One Side Only

*Upper Edge, Feet, Inches and 16ths with "Instantaneous" Readings; Lower Edge, Consecutive Inches to 16ths; Graduations Read from Left to Right

| Length Feet | Tape-Rule No. | Replacement Blade No. | Weight per Carton Pounds |
|---|---|---|---|
| 10 | W9310 | RW310 | 2½ |
| 12 | W9312 | RW312 | 2⅝ |
| 16 | W9316 | RW316 | 2⅝ |

*Upper edge has each preceding foot number repeated at each inch throughout the tape. The total reading is at the point of measurement. Easy conversion from feet and inches to consecutive inches and vice versa is permitted. The first 12 inches of lower edge is graduated to 32nds.

Packing: One to a Display Card; Six in a Carton.



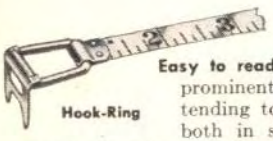
FOR PRICES SEE PRICE LIST

# "Anchor" Chrome Clad Steel Tapes

(Patented)

## Industrial Quality

**Line 3/8-Inch Wide • The Ideal Tape for General Use**
**Markings Jet Black • Surface Satin Chrome-White • Leather Case**



Hook-Ring

**Easy to read.** Large figures, prominent graduations extending to the very edge; both in sharp color contrast to glare-free satin Chrome Clad surface. An accurate steel tape with "Instantaneous" readings.

**Permanent markings.** Resist abrasion, heat, etc.

**Rust and corrosion-resistant, sturdy line.** Heavily chrome plated.

**Surface of line will not chip, peel or crack.** Metal throughout.

**Case is durable, practical and attractive.** Finest genuine leather, mahogany color, closely handstitched over sturdy rust-resistant metal liner. Smoothly operating recessed winding drum with folding flush handle opened by push pin.


With Standard Ring

**Hook-Ring:** Enables one to measure unassisted; tape suitable also for butt end measuring. Attached, sturdy, 2-pronged, metal hook folds flush against ring. Friction holds it open or closed. Spurs take firm hold under tension and are easily released.

| Marked One Side Only | | | | | | Marked Both Sides | | | |
|---|---|---|---|---|---|---|---|---|---|
| With Standard Ring | | | | With Hook-Ring | | With Standard Ring | | | |
| Length Feet | Feet, Inches and 8ths Tape No. | Feet, 10ths and 100ths Feet Tape No. | Feet, Inches and 16ths Tape No. | Feet, Inches and 8ths Tape No. | Feet, 10ths and 100ths Feet Tape No. | Length Meters | Length Feet | *Marked Metric and English Tape No. | †Marked Feet, 10ths, 100ths and Metric Tape No. |
| 25 | C210 | C210D | C210-16ths | HC210 | ..... | .. | ... | ..... | ..... |
| 50 | C213 | C213D | C213-16ths | HC213 | HC213D | 15 | 50 | C213ME | ..... |
| | | | ‡C213-16ths Blk | ..... | ..... | .. | ... | ..... | ..... |
| 100 | C216 | C216D | C216-16ths | HC216 | | 30 | 100 | C216ME | C216DM |
| | | | ‡C216-16ths Blk | | ..... | .. | ... | ..... | ..... |
| Refills for Tapes (Lines Only, with Ring) | | | | | | | | | |
| 25 | OC210 | OC210D | | | ..... | | | | |
| 50 | OC213 | OC213D | OC213-16ths | OHC213 | OHC213D | | | | |
| 100 | OC216 | OC216D | | OHC216 | | | | | |
| ... | ..... | ..... | ..... | ..... | ..... | | | | |

**Approx. wt.:** 25-ft., 3/4 lb.; 50-ft., 1 1/16 lb.; 100-ft., 1 13/16 lb.

*One side first decimeter in mm., balance in cm.; other side feet, inches and 8ths.
†One side feet, 10ths and 100ths; other side first decimeter in mm., balance in cm.
‡Tapes have blank space first end.

Packing: One in a Box.

FOR PRICES SEE PRICE LIST

# "Anchor" Chrome Clad Steel Tapes

(Patented)

## Industrial Quality

**Line ⅜-inch Wide • The Ideal Tape for General Use**
**Markings Jet Black • Surface Satin Chrome-White • Leather Case**

## DECIMAL GRADUATED


Actual Size

**GRADUATED CONSECUTIVE INCHES AND 10THS OF INCHES**

**Easy to read.** Large figures, prominent graduations extending to the very edge; both in sharp color contrast to glare-free satin Chrome Clad surface.

**Permanent markings.** Resist abrasion, heat, etc.

**Rust and corrosion-resistant, sturdy line.** Heavily chrome plated.

**Surface of line will not chip, peel or crack.** Metal throughout.

**Case is durable, practical and attractive.** Finest genuine leather, mahogany color, closely hand-stitched over sturdy rust-resistant metal liner. Smoothly operating recessed winding drum with folding flush handle opened by push pin.


With Standard Ring

| Tape Complete | | Replacement Line Only Number |
|---|---|---|
| Length | Number | |
| 600" | C213CX | OC213CX |

Packing: One in a Box.



FOR PRICES SEE PRICE LIST

# "Leader" Chrome Clad Steel Tapes

(Patented)

## Industrial Quality

**Line 3/8-Inch Wide • The Popular Priced Chrome Clad Tape for General Use**

**Markings Jet Black • Surface Satin Chrome-White**

**Durable Vinyl Covered Case • Replaceable Line**



In the "Leader," at its moderate price, we bring within the reach of every tape user the superior features of Chrome Clad Measuring Tapes.

The line is of standard weight.

**Lufkote Finish**—The new modern longer wearing durable protective coating.

**Easy to read.** Accurate. Serviceable. Attractive. "Instantaneous" readings. Large figures, prominent graduations extending to the very edge; both in sharp color contrast to the glare-free surface.

**Permanent markings.** Strongly resist abrasion, heat, etc.

**Rust and corrosion-resistant, sturdy line.** Heavily chrome plated.

**Surface of line will not chip, peel or crack.** Metal throughout.

**Case is durable and attractive.** Metal lined and covered with vinyl. Narrow, flat, flush, stainless steel edge band. Liner is of welded steel, rust-resistant coated. Smoothly operating recessed winding drum with folding flush handle opened by push pin.

Another valuable feature of this tape is the ease of line replacement. The line has a slotted fastener that affords a secure and positive fitting. A new line is installed easily in just a few seconds.

**Hook-Ring:** Enables one to measure unassisted; tape suitable also for butt end measuring. Attached, sturdy, 2-pronged, metal hook folds flush against ring. Friction holds it open or closed. Spurs take firm hold under tension and are easily released.

| Marked One Side Only | | | | | With Standard Ring | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | With Standard Ring | | With Hook-Ring | | Length | | | | |
| Length Feet | Feet, Inches and 8ths Tape No. | Feet, Inches and 8ths *Refill No. | Feet, Inches and 8ths Tape No. | Feet, Inches and 8ths †Refill No. | Meters | Feet | Marked Metric and English Tape No. | Marked Metric Tape No. | Marked Metric to Millimeters Tape No. |
| 25 | C250 | OC250 | HC250 | OHC250 | 10 | 33 | C251ME | C251M | C251MM |
| | | | | | 15 | 50 | C253ME | C253M | |
| 50 | C253 | OC253 | HC253 | OHC253 | 20 | 66 | C254ME | C254M | C254MM |
| | | | | | 25 | 82 | C255ME | C255M | C255MM |
| 75 | | | HC255 | OHC255 | 30 | 100 | C256ME | C256M | C256MM |
| 100 | C256 | OC256 | HC256 | OHC256 | 50 | 164 | C257ME | | |

**Approximate weight:** 25-ft., 3/4 lb.; 50-ft., 1 1/16 lb.; 66-ft., 1 5/16 lb.; 75-ft., 1 7/16 lb.; 100-ft., 1 13/16 lb.

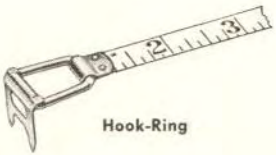
*Lines only, with standard ring. †Lines only, with hook-ring.

Packing: HC253, HC256 in Display Package. All others, one in a box.

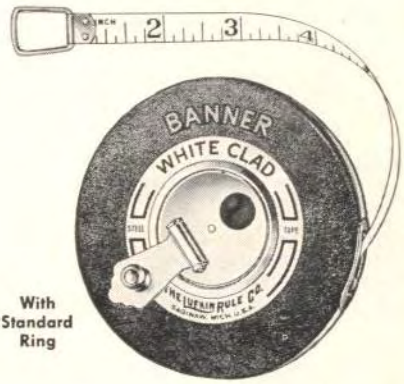
FOR PRICES SEE PRICE LIST

# "Banner" White Clad Steel Tapes

**Line 3/8-Inch Wide • Markings Jet Black • Surface Snow White • Vinyl Case**




Hook-Ring




With Standard Ring

The ideal general purpose tape for use where severe abrasion is not a problem.

**Lufkote Finish**—The new modern longer wearing durable protective coating.

**Red Foot Figures**—For faster accurate readings.

**16 inch centers** are indicated to assist layout in the building trades.

**Easy to read.** Jet black figures and graduations on snow white surface.

**Durable mar-resistant line.** Triple baked white modern synthetic finish on bonderized tape steel. The hard smooth surface is easy to keep clean.

**Case is durable and attractive.** Vinyl covered over rust-resistant coated steel liner. Folding flush handle is opened by push pin.

Plated fittings.

Another valuable feature of this tape is the ease of line replacement. The line has a slotted fastener that affords a secure and positive fitting. A new line is installed easily in just a few seconds.

| Length Feet | Marked One Side Only | | | | With Standard Ring | | | |
|---|---|---|---|---|---|---|---|---|
| | With Hook-Ring | | With Standard Ring | | Length Meters | Marked Metric and English Tape No. | Marked Metric Tape No. | Marked Metric to Millimeters Tape No. |
| | Feet, Inches and 8ths Tape No. | Feet, Inches and 8ths *Refill No. | Feet, Inches and 8ths Tape No. | Feet, Inches and 8ths Refill No. | | | | |
| 25 | HW220 | OHW220 | W220 | OW220 | 10 | W221ME | W221M | W221MM |
| 33 | | | | | 15 | W223ME | W223M | |
| 50 | HW223 | OHW223 | W223 | OW223 | 20 | W224ME | W224M | W224MM |
| 66 | | | | | 25 | W225ME | W225M | |
| 75 | HW225 | OHW225 | | | 30 | W226ME | W226M | W226MM |
| 100 | HW226 | OHW226 | W226 | OW226 | 50 | W227ME | W227M | |

*Lines only, with hook-ring.

**Approx. wt.** 25-ft., 3/4 lb.; 33-ft., 1 lb.; 50-ft., 1 1/16 lb.; 66-ft., 1 3/8 lb.; 75-ft., 1 1/16 lb.; 100-ft., 1 15/16 lb.

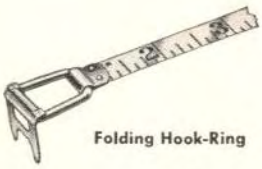
Packing: HW223, HW226 in display package. All others, one in a box.



FOR PRICES SEE PRICE LIST

# "Royal" Ni-Clad Steel Tapes

**Line ⅜-Inch Wide • A Low Priced Accurate, Dependable Steel Tape**
**Markings Jet Black • Surface Nickel-White • Durable Vinyl Covered Case**



**Folding Hook-Ring**


**With Standard Ring**

The popular priced "Royal" Ni-Clad has brought within the reach of all a steel tape that is accurate and dependable. Nickel plated line, long wearing, rust and corrosion resistant. The durable and easy to read black figures and graduations stand out clearly on the nickel-white background. "Instantaneous" readings.

The case is covered with attractive and durable vinyl and has a narrow, flat and flush stainless steel edge band. Welded metal case liner is rust resistant coated. Smoothly operating recessed drum with folding flush handle opened by push pin.

Another valuable feature of this tape is the ease of line replacement. The line has a slotted fastener that affords a secure and positive fitting. A new line is installed easily in just a few seconds.

This tape is furnished with hook ring or regular ring. The hook-ring enables one to measure unassisted. Attached, sturdy, 2-pronged metal hook folds flush against ring. Friction holds it open or closed. Spurs take firm hold, grip under tension and are released easily. This tape has an indicating mark at each 16″ interval to assist in layout in the building industry.

| Marked One Side Only | | | Length | | With Standard Ring | |
|---|---|---|---|---|---|---|
| | With Hook-Ring | | | | | |
| Length Feet | Feet, Inches and 8ths Tape No. | Feet, Inches and 8ths †Refill No. | Meters | Feet | ‡Marked Metric, Tape No. | Marked Metric, To Millimeters Tape No. |
| 25 | **H430** | **OH430** | 10 | 33 | **431M** | **431MM** |
| 50 | **H433** | **OH433** | 15 | 50 | **433M** | |
| 75 | **H435** | **OH435** | 20 | 66 | **434M** | **434MM** |
| 100 | **H436** | **OH436** | 25 | 82 | **435M** | **435MM** |
| | | | 30 | 100 | **436M** | **436MM** |
| | | | 50 | 164 | **437M** | |

**Approximate weight:** 25-ft., ¾-lb.; 50-ft., 1 1/16 lb.; 75-ft., 1 7/16 lb.; 100-ft., 1 13/16 lb.

†Lines only, with hook-ring.

‡One side first decimeter in mm., balance in cm.

**Note:** "Royal" Ni-Clad Tapes can be supplied marked Metric only.

Packing: H433, H436 in a display package. All others, one in a box.

*FOR PRICES SEE PRICE LIST*

## "Challenge" Nubian (Black) Finish Steel Tapes

**Line 3/8-Inch Wide**
**A Standard, High Grade General Purpose Tape • Raised Markings • Leather Case**


With Standard Ring

Raised markings in natural steel over black background, with clear plastic coating. "Instantaneous" readings.

Case of brown, genuine leather, closely hand-stitched over sturdy rust-resistant metal liner.

Smoothly operating recessed winding drum with folding flush handle opened by push pin.

Another valuable feature of this tape is the ease of line replacement. The line has a patented rivet and slot fastener that affords a secure and positive fitting. A new line is installed easily in just a few seconds.

| Marked One Side Only | | |
|---|---|---|
| | With Standard Ring | |
| Lgth. Ft. | Ft., In. & 8ths Tape No. | Ft., 10ths & 100ths Tape No. |
| 25 | **260** | .... |
| 50 | **263** | **263D** |
| 100 | **266** | **266D** |
| 150 | **267** | .... |

**Weight:** 25-ft., ¾ lb.; 50-ft., 1⅛ lb.; 100-ft., 1⅝ lb.; 150-ft., 2⅝ lb.

Packing: One in a Box.

## "Universal" Nubian (Black) Finish Steel Tapes

**Line 3/8-Inch Wide**
**A Favorite of Many Mechanics in the Building Trades • Raised Markings**
**Durable Maroon Vinyl Covered Case**


With Standard Ring

The line has raised markings in natural steel over black background. "Instantaneous" readings.

Durable and attractive case of maroon vinyl with a flat, flush stainless steel edge band. Case liner is welded steel, rust-resistant coated. Recessed drum with folding flush handle opened by push pin.

Another valuable feature of this tape is the ease of line replacement. The line has a patented rivet and slot fastener that affords a secure and positive fitting. A new line is installed easily in just a few seconds.

| Marked One Side Only | |
|---|---|
| Length Feet | With Standard Ring |
| | Ft., In. & 8ths Tape No. |
| 25 | **540** |
| 50 | **543** |
| 100 | **546** |



FOR PRICES SEE PRICE LIST

# Aluminum Rules

## 6-Inch Folds • 9/16-Inch Wide

No. 1206 with Outside Markings

Sections are constructed of durable, lightweight special analysis aluminum alloy. Black filled sunken graduations and large figures are in contrast with natural aluminum surface; easy to read.

Solid brass lock joints.

Joints have a rivet headed over flush embedded washers, securely holding rule to length.

| With Outside Markings (Numbering Begins on Outside) | | | | With Inside or Flat Markings (Numbering Begins on Inside) | | | |
|---|---|---|---|---|---|---|---|
| Rule No. | Length Feet | Markings | Wt., Lb. per Box | Rule No. | Length Feet | Markings | Wt., Lb. per Box |
| **1206** | 6 | Consecutive Inches to 16ths, Both Sides. | 1⅔ | **1206F** | 6 | Consecutive Inches to 16ths, Both Sides. | 1⅔ |

# Mechanics Folding Steel Rules

Heavy duty, accurate, Folding Rules are made of fine tempered steel, $\frac{3}{4} \times \frac{1}{32}$ inch.

Lock joints. Each joint has two durable stops or snap sockets and a strong rivet with both ends headed over a washer. Each joint is held to length and sections are held rigidly in alignment when open or closed.

The deeply etched markings are in sharp contrast to the polished steel, easy to read and permanent.

| Marked Both Sides, Lower Edge Consecutive Inches to 16ths | | | | | Marked English and Metric; One Side Consecutive In. to 16ths; Other Side to Mm. | | | | |
|---|---|---|---|---|---|---|---|---|---|
| No. | Lgth. Feet | Sections | No. in Box | Wt. Lb. per Box | No. | Length | Sections | No. in Box | Wt. Lb. per Box |
| **1173** | 3 | 6-Inch | 12 | 3¼ | **1173ME** | 1 Meter | 6-Fold | 12 | 3½ |
| **1176** | 6 | 6-Inch | 6 | 3¼ | | | | | |

# No. 62 One-Piece Long Steel Rules

Substantial tempered steel rules with hole in one end for hanging. Large figures and lines. Heavier than on machine divided rules. Deeply etched and filled in black. Permanent and easy to read.

Specify stock number and length when ordering.

| Marked Both Sides, Both Edges; Upper Edge 8ths, Lower Edge 16ths Inch; Opposite Sides Measure from Opposite Ends | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| No. | Length Feet | Width Inches | Thickness Inches | Weight Pounds | No. | Length Feet | Width Inches | Thickness Inches | Weight Pounds |
| **62-1 ft.** | 1 | 1¼ | 1/16 | 5/16 | **62- 6 ft.** | 6 | 1¼ | 1/16 | 1⅝ |
| **62-2 ft.** | 2 | 1¼ | 1/16 | 9/16 | **62- 8 ft.** | 8 | 1¼ | 1/16 | 2¼ |
| **62-3 ft.** | 3 | 1¼ | 1/16 | 13/16 | **62-10 ft.** | 10 | 1¼ | 1/16 | 2⅞ |
| **62-4 ft.** | 4 | 1¼ | 1/16 | 1⅛ | | | | | |

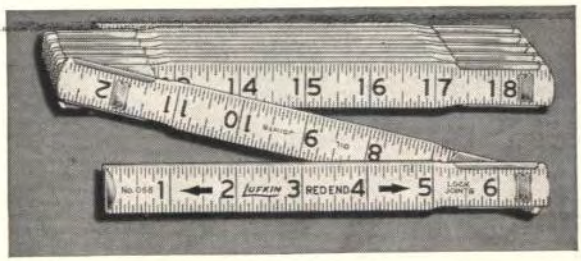
Packing: Aluminum Rules, Three in a Box; One-Piece Long Steel Rules, One in a Package.

**FOR PRICES SEE PRICE LIST**

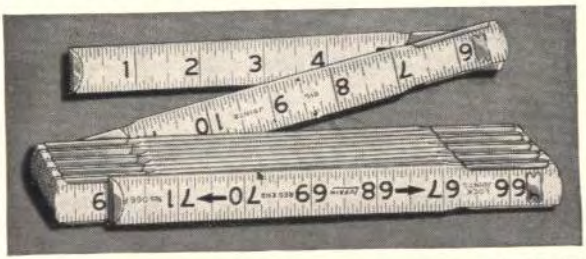
# "Red End®" Highest Quality Spring Joint Rules

(Reg. U. S. Pat. Off.)

**"Red End" is the Name and Color Recognized as the Mark of Superior Wood Rules**
**6-Inch Folds • 5/8-Inch Wide**




No. 066 with Outside Markings—(Numbering Begins on Outside of Rule)



No. 066F with Inside Markings—(Numbering Begins on Inside of Rule)

**Measurement Lies Close to the Work Even When Rule is Partly Open**

**Finest hardwood,** straight grained, tough and flexible.
**Snow white enamel finish,** most readable.
**Bold face figures and graduations** are embedded in the wood and are easy to read.
**Double graduations,** both edges of both sides are graduated to 16ths.
**LUFKOTE Finish**—the new modern longer wearing durable protective coating.
**Concealed type joints** are made of solid brass; rustproof and smooth working.
**Lock joints** prevent end play and maintain accuracy, see page 250.
**Strike plates and end caps** are of solid brass; prevent wear.
**16" centers** indicated in red.
**Ends** are in bright gloss red, attractive, protective and easy to locate.

| With Outside Markings (Numbering Begins on Outside of Rule) | | | | With Inside or Flat Markings (Numbering Begins on Inside of Rule) | | | |
|---|---|---|---|---|---|---|---|
| Rule No. | Length Feet | Markings | Weight Pounds per Box | Rule No. | Length Feet | Markings | Weight Pounds per Box |
| 064 | 4 | Consecutive Inches to 16ths; Both Edges to Both Sides | 1 1/8 | 066F | 6 | Consecutive Inches to 16ths; Both Edges to Both Sides | 1 3/4 |
| 066 | 6 | | 1 3/4 | 068F | 8 | | 2 1/4 |
| H066 | 6 | | 1 3/4 | | | | |
| 068 | 8 | | 2 1/4 | | | | |
| 066X | 6 | Consecutive Inches to 10ths Inch | 1 3/4 | | | | |



Packing: Six in a Box.

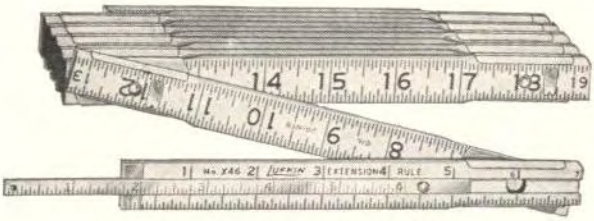
FOR PRICES SEE PRICE LIST

# No. X46 "Red End®" Heavy Duty Extension Rule

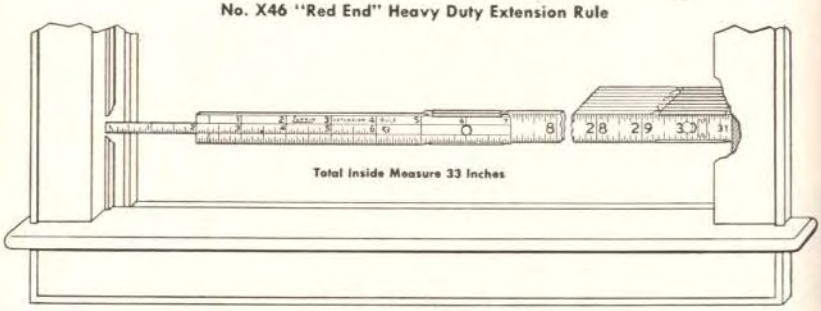
**"Red End" is the Name and Color Recognized as the Mark of Superior Wood Rules**

**6-Inch Folds • ⅝-Inch Wide**

**For Inside Measuring of Openings and For All Regular Measuring**




No. X46 "Red End" Heavy Duty Extension Rule




This is a 6-foot Spring Joint Wood Rule with a 6-inch graduated brass slide accurately fitted into one end section. The slide runs under friction in a T slot and has a stop at each end so slide will not fall out. Extra rigid and sturdy wood sections are ¼-inch thick, ⅓ heavier than regular folding rules. Handles nicely and is ideal for all types of measuring.

To take an inside measurement: Open rule to within 6 inches or less of the distance. Butt its square end against one side of opening. Extend slide until it strikes other side. Add measurement on slide to that shown at other end of rule. This gives exact measure of the opening.

**Finest hardwood,** straight grained and tough. Boxwood finish.

**Bold face figures and graduations** are embedded in the wood and are easy to read.

**Double graduations,** both edges of both sides are graduated inches to 16ths.

**LUFKOTE Finish** — The new modern longer wearing durable protective coating.

**Joints** are extra heavy brass plated.

**Triple locking joints** prevent end play and maintain accuracy.

**Heavy duty spring joints** are extra length; give stability and longer wear.

**Solid brass strike plates** prevent wear on markings when rule is opened and closed.

**16" centers** indicated in red.

**End caps** are brass, flush inset and graduated.

**Graduated brass slide** with both graduations and figures black filled for easy reading.

**Ends** are in bright gloss red, attractive, protective and easy to locate.

No. **X46,** "Red End" Heavy Duty Extension Rule. 6 Foot.
No. **HX46,** "Red End" Heavy Duty Extension Rule with Folding Hook. 6 Foot.
No. **X48,** "Red End" Heavy Duty Extension Rule. 8 Foot.

**Note:** Rule No. HX46 has Folding Hook. This is handy for taking measurements beyond arms reach.

Packing: Six in a Box. Weight per Box, 2¼ Pounds.

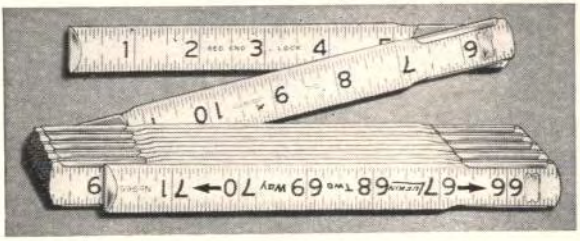
***FOR PRICES SEE PRICE LIST***

# No. 966 "Two Way—Red End®" Spring Joint Rule

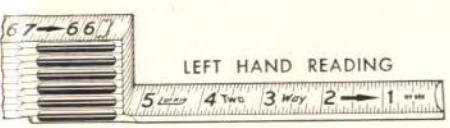
(Reg. U. S. Pat. Off.)

**"Red End" is the Name and Color Recognized as the Mark of Superior Wood Rules**
**6-Inch Folds • 5/8-Inch Wide**

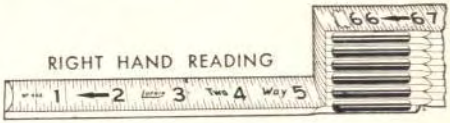
**Equally Handy for Measuring Left to Right and Right to Left**



No. 966 "Two Way—Red End" Spring Joint Rule




Reading from Right to Left




Reading from Left to Right

**Finest hardwood,** straight grained, tough and flexible.

**Snow white enamel finish,** most readable.

**Bold face figures and graduations** are embedded in the wood and are easy to read.

**Double graduations,** both edges of both sides are graduated to 16ths.

**LUFKOTE Finish**—The new modern longer wearing durable protective coating.

**Concealed type joints** are made of solid brass; rustproof and smooth working.

**Lock joints** prevent end play and maintain accuracy.

**Strike plates and end caps** are of solid brass; prevent wear.

**16" centers** indicated in red.

**Ends** are in bright gloss red, attractive, protective and easy to locate.

As pictured above, the "Two Way" Rule has figures reading right to left on one side and left to right on the other side. Left to right is the natural measuring direction; right to left is most convenient when rule is in left hand, pencil or saw in the right. This rule is handy for measuring right and left out of a corner. Also, when measuring distances longer than the rule, the completing length is shown, with figures right side up, by simply turning over the rules. The sections that are open for use lie flat directly on the work, because the "Two Way" Rule has inside markings on both sides, i.e., numbering begins on inside face, as illustrated.

No. **966,** 6-Foot "Red End" Rule with Two Way Markings.

Packing: Six in a Box. Weight per Box, 1¾ Pounds.



FOR PRICES SEE PRICE LIST

## Surveyors or Land Measure

1 Link = 7.92 inches.
1 Rod (or Pole) = 25 links = 16½ feet.
1 Chain = 100 links = 4 rods = 66 feet
1 Furlong = 40 rods = 10 chains = ⅛ mile.

1 Mile = 320 rods = 5,280 feet.
1 Acre = 160 square rods = 43,560 square feet.
1 Square Mile = 640 acres.

## The Metric System

### MEASURES OF LENGTH

10 millimeters (mm.) = 1 centimeter . . . cm.
10 centimeters = 1 decimeter . . . . . dm.
10 decimeters = 1 meter . . . . . m.

1 meter = 39.37 inches. / 3.28083 feet. / 1.0936 yards.
1 centimeter = .3937 inch.
1 millimeter = .03937 inch, or approximately 1/25 inch.
1 kilometer = 0.62137 mile.

10 meters = 1 dekameter . . . . . Dm.
10 dekameters = 1 hektometer . . . . . Hm.
10 hektometers = 1 kilometer . . . . . Km.

1 foot = .3048 meter.
1 inch = 2.54 centimeters. / 25.4 millimeters.

### MEASURES OF SURFACE

1 square meter = 10.764 square feet. / 1.196 square yards.
1 square centimeter = .155 square inch.
1 square millimeter = .00155 sq. inch

1 square yard = .836 square meter.
1 square foot = .0929 square meter.
1 square inch = 6.452 sq. centimeters. / 645.2 sq. millimeters.

### MEASURES OF VOLUME AND CAPACITY

1 cubic meter = 35.314 cubic feet. / 1.308 cubic yards. / 264.2 gallons (231 cubic inches)
1 cubic decimeter = 61.023 cubic in. / .0353 cubic feet.
1 cubic centimeter = .061 cubic inch.

1 liter = 1 cubic decimeter. / 61.023 cubic inches. / .0353 cubic foot. / 1.0567 quarts (U. S.). / .2642 gallon (U. S.). / 2.202 lbs. of water at 62° F.

1 cubic yard = .7645 cubic meter.
1 cubic foot = .02832 cubic meter. / 28.317 cubic decimeters. / 28.317 liters.
1 cubic in. = 16.393 cubic centimeters.
1 gallon (British) = 4.543 liters.
1 gallon (U. S.) = 3.785 liters.

### MEASURES OF WEIGHT

1 gram = 15.432 grains.
1 kilogram = 2.2046 pounds.
1 metric ton = .9842 ton of 2240 lbs. / 19.68 cwts. / 2204.6 lbs.

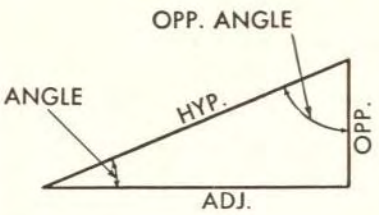
1 grain = .0648 gram.
1 ounce avoirdupois = 28.35 grams.
1 pound = .4536 kilogram.
1 ton of 2240 lbs. = 1.016 metric ton. / 1016 kilograms.

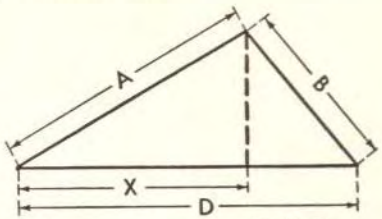
## Miscellaneous

1 kilogram per meter = .6720 pounds per foot.
1 gram per square millimeter = 1.422 pounds per square inch.
1 kilogram per square meter = 0.2084 pounds per square foot.
1 kilogram per cubic meter = .0624 pounds per cubic foot.
1 degree centigrade = 1.8 degrees Fahrenheit.
1 pound per foot = 1.488 kilograms per meter.
1 pound per square foot = 4.882 kilograms per square meter.
1 pound per cubic foot = 16.02 kilograms per cubic meter.
1 degree Fahrenheit = .5556 degrees centigrade.
1 Calorie (French Thermal Unit) = 3.968 B. T. U. (British Thermal Unit).
1 Horse Power = 33,000 foot pounds per minute. / 746 Watts.

1 Watt (Unit of Electrical Power) = .00134 Horse Power. / 44.22 foot pounds per minute.
1 Kilowatt = 1000 Watts / 1.34 Horse Power. / 44,220 foot pounds per minute.

## Table for Solving Right Angled Triangles




When A, B & D Are Given: $X = \frac{D^2 + A^2 - B^2}{2D}$

| Parts Given | PARTS TO BE FOUND | | | | |
|---|---|---|---|---|---|
| | Hypotenuse | Adjacent | Opposite | Angle | Opposite Angle |
| **Hypotenuse & Adjacent** | ..... | ..... | $\sqrt{\text{Hyp.}^2-\text{Adj.}^2}$ | $\text{Cos.} = \frac{\text{Adj.}}{\text{Hyp.}}$ | $\text{Sin.} = \frac{\text{Adj.}}{\text{Hyp.}}$ |
| **Hypotenuse & Opposite** | ..... | $\sqrt{\text{Hyp.}^2-\text{Opp.}^2}$ | ..... | $\text{Sin.} = \frac{\text{Opp.}}{\text{Hyp.}}$ | $\text{Cos.} = \frac{\text{Opp.}}{\text{Hyp.}}$ |
| **Hypotenuse & Angle** | ..... | Hyp. x Cos. | Hyp. x Sin. | ..... | 90°-Angle |
| **Adjacent & Opposite** | $\sqrt{\text{Adj.}^2+\text{Opp.}^2}$ | ..... | ..... | $\text{Tan.} = \frac{\text{Opp.}}{\text{Adj.}}$ | $\text{Cot.} = \frac{\text{Opp.}}{\text{Adj.}}$ |
| **Adjacent & Angle** | $\frac{\text{Adj.}}{\text{Cos.}}$ | ..... | Adj. x Tan. | ..... | 90°-Angle |
| **Opposite & Angle** | $\frac{\text{Opp.}}{\text{Sin.}}$ | Opp. x Cot. | ..... | ..... | 90°-Angle |

## Useful Rules

**To Find Circumference**
Multiply Diameter by **3.1416** or
Divide Diameter by **0.3183**

**To Find Diameter**
Multiply Circumference by **0.3183** or
Divide Circumference by **3.1416**

**To Find Radius**
Multiply Circumference by **0.15915**
Divide Circumference by **6.28318**

**To Find Side of an Inscribed Square**
Multiply Diameter by **0.7071** or
Multiply Circumference by **0.2251** or
Divide Circumference by **4.4428**

**To Find Side of an Equal Square**
Multiply Diameter by **0.8862** or
Divide Diameter by **1.1284** or
Multiply Circumference by **0.2821** or
Divide Circumference by **3.545**

**Square**
A Side Multiplied by:
Diameter of Its
**1.4142** = Circumscribing Circle
Circumference of Its
**4.443** = Circumscribing Circle
Diameter of an
**1.128** = Equal Circle
Circumference of an
**3.547** = Equal Circle

**To Find the Area of a Circle**
Multiply Circumference by
**¼** of the Diameter or
Multiply the Square of:
Diameter by **0.7854**
Circumference by **.07958**
Square of **½** Diameter by **3.1416**

**To Find Surface of a Sphere or Globe**
Multiply the Diameter by the Circumference or
Multiply the Square of Diameter by **3.1416** or
Multiply Four Times the Square of Radius by **3.1416**

**To Find the Cubic Inches (Volume) in a Sphere or Globe**
Multiply the Cube of the Diameter by **.5236**

**To Convert Temperatures**
To Convert Centigrade to Fahrenheit:
Multiply by **9/5** and add **32.**
To Convert Fahrenheit to Centigrade:
Subtract **32** and Multiply by **5/9**

**To Find the Weight of Brass and Copper Sheets, Rods and Bars**
Ascertain the Number of Cubic Inches in Piece and Multiply Same by Weight per Cubic Inch
Aluminum **.0924**; Brass **.2960**; Copper **.3184**; Steel **.2816** or
Multiply Length by Breadth (in Feet) and Product by Weight in Pounds per Square Foot

## Decimal Equivalents of 8ths, 16ths, 32nds and 64ths of an inch

| 8ths | 16ths | 32nds | | 64ths | | | |
|---|---|---|---|---|---|---|---|
| 1/8 = .125 | 1/16 = .0625 | 1/32 = .03125 | 17/32 = .53125 | 1/64 = .015625 | 17/64 = .265625 | 33/64 = .515625 | 49/64 = .765625 |
| 1/4 = .250 | 3/16 = .1875 | 3/32 = .09375 | 19/32 = .59375 | 3/64 = .046875 | 19/64 = .296865 | 35/64 = .546875 | 51/64 = .796875 |
| 3/8 = .375 | 5/16 = .3125 | 5/32 = .15625 | 21/32 = .65625 | 5/64 = .078125 | 21/64 = .328125 | 37/64 = .578125 | 53/64 = .828125 |
| 1/2 = .500 | 7/16 = .4375 | 7/32 = .21875 | 23/32 = .71875 | 7/64 = .109375 | 23/64 = .359375 | 39/64 = .609375 | 55/64 = .859375 |
| 5/8 = .625 | 9/16 = .5625 | 9/32 = .28125 | 25/32 = .78125 | 9/64 = .140625 | 25/64 = .390625 | 41/64 = .640625 | 57/64 = .890625 |
| 3/4 = .750 | 11/16 = .6875 | 11/32 = .34375 | 27/32 = .84375 | 11/64 = .171875 | 27/64 = .421875 | 43/64 = .671875 | 59/64 = .921875 |
| 7/8 = .875 | 13/16 = .8125 | 13/32 = .40625 | 29/32 = .90625 | 13/64 = .203125 | 29/64 = .453125 | 45/64 = .703125 | 61/64 = .953125 |
| | 15/16 = .9375 | 15/32 = .46875 | 31/32 = .96875 | 15/64 = .234375 | 31/64 = .484375 | 47/64 = .734375 | 63/64 = .984375 |

## Decimal Equivalents of Millimeters

| Mm. | Inches | Mm. | Inches | Mm. | Inches | Mm. | Inches | Mm. | Inches | Mm. | Inches | Mm. | Inches | Mm. | Inches |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| .1 | .00394 | 2.3 | .09055 | 4.5 | .17716 | 6.7 | .26377 | 8.9 | .35039 | 11. | .43307 | 13.1 | .51574 | 16. | .62992 |
| .2 | .00787 | 2.4 | .09448 | 4.6 | .18110 | 6.8 | .26771 | 9. | .35433 | 11.1 | .43700 | 13.2 | .51968 | 16.5 | .64960 |
| .3 | .01181 | 2.5 | .09842 | 4.7 | .18503 | 6.9 | .27165 | 9.1 | .35826 | 11.2 | .44094 | 13.3 | .52362 | 17. | .66929 |
| .4 | .01575 | 2.6 | .10236 | 4.8 | .18897 | 7. | .27559 | 9.2 | .36220 | 11.3 | .44488 | 13.4 | .52755 | 17.5 | .68897 |
| .5 | .01968 | 2.7 | .10629 | 4.9 | .19291 | 7.1 | .27952 | 9.3 | .36614 | 11.4 | .44881 | 13.5 | .53149 | 18. | .70866 |
| .6 | .02362 | 2.8 | .11023 | 5. | .19685 | 7.2 | .28346 | 9.4 | .37007 | 11.5 | .45275 | 13.6 | .53543 | 18.5 | .72834 |
| .7 | .02756 | 2.9 | .11417 | 5.1 | .20078 | 7.3 | .28740 | 9.5 | .37401 | 11.6 | .45669 | 13.7 | .53936 | 19. | .74803 |
| .8 | .03149 | 3. | .11811 | 5.2 | .20472 | 7.4 | .29133 | 9.6 | .37795 | 11.7 | .46062 | 13.8 | .54330 | 19.5 | .76771 |
| .9 | .03543 | 3.1 | .12204 | 5.3 | .20866 | 7.5 | .29527 | 9.7 | .38188 | 11.8 | .46456 | 13.9 | .54724 | 20. | .78740 |
| 1. | .03937 | 3.2 | .12598 | 5.4 | .21259 | 7.6 | .29921 | 9.8 | .38582 | 11.9 | .46850 | 14. | .55118 | 20.5 | .80708 |
| 1.1 | .04330 | 3.3 | .12992 | 5.5 | .21653 | 7.7 | .30314 | 9.9 | .38976 | 12. | .47244 | 14.1 | .55511 | 21. | .82677 |
| 1.2 | .04724 | 3.4 | .13385 | 5.6 | .22047 | 7.8 | .30708 | 10. | .39370 | 12.1 | .47637 | 14.2 | .55905 | 21.5 | .84645 |
| 1.3 | .05118 | 3.5 | .13779 | 5.7 | .22440 | 7.9 | .31102 | 10.1 | .39763 | 12.2 | .48031 | 14.3 | .56299 | 22. | .86614 |
| 1.4 | .05512 | 3.6 | .14173 | 5.8 | .22834 | 8. | .31496 | 10.2 | .40157 | 12.3 | .48425 | 14.4 | .56692 | 22.5 | .88582 |
| 1.5 | .05905 | 3.7 | .14566 | 5.9 | .23228 | 8.1 | .31889 | 10.3 | .40551 | 12.4 | .48818 | 14.5 | .57086 | 23. | .90551 |
| 1.6 | .06299 | 3.8 | .14960 | 6. | .23622 | 8.2 | .32283 | 10.4 | .40944 | 12.5 | .49212 | 14.6 | .57480 | 23.5 | .92519 |
| 1.7 | .06692 | 3.9 | .15354 | 6.1 | .24015 | 8.3 | .32677 | 10.5 | .41338 | 12.6 | .49606 | 14.7 | .57873 | 24. | .94488 |
| 1.8 | .07086 | 4. | .15748 | 6.2 | .24409 | 8.4 | .33070 | 10.6 | .41732 | 12.7 | .49999 | 14.8 | .58267 | 24.5 | .96456 |
| 1.9 | .07480 | 4.1 | .16141 | 6.3 | .24803 | 8.5 | .33464 | 10.7 | .42125 | 12.8 | .50393 | 14.9 | .58661 | 25. | .98425 |
| 2. | .07874 | 4.2 | .16535 | 6.4 | .25196 | 8.6 | .33858 | 10.8 | .42519 | 12.9 | .50787 | 15. | .59055 | 25.5 | 1.00393 |
| 2.1 | .08267 | 4.3 | .16929 | 6.5 | .25590 | 8.7 | .34251 | 10.9 | .42913 | 13. | .51181 | 15.5 | .61023 | 26. | 1.02362 |
| 2.2 | .08661 | 4.4 | .17332 | 6.6 | .25984 | 8.8 | .34645 | | | | | | | | |

## Decimal Equivalents of Number Size Drills

| No. | Size of Drill in Inches | No. | Size of Drill in Inches | No. | Size of Drill in Inches | No. | Size of Drill in Inches | No. | Size of Drill in Inches | No. | Size of Drill in Inches | No. | Size of Drill in Inches | No. | Size of Drill in Inches |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.2280 | 11 | 0.1910 | 21 | 0.1590 | 31 | 0.1200 | 41 | 0.0960 | 51 | 0.0670 | 61 | 0.0390 | 71 | 0.0260 |
| 2 | 0.2210 | 12 | 0.1890 | 22 | 0.1570 | 32 | 0.1160 | 42 | 0.0935 | 52 | 0.0635 | 62 | 0.0380 | 72 | 0.0250 |
| 3 | 0.2130 | 13 | 0.1850 | 23 | 0.1540 | 33 | 0.1130 | 43 | 0.0890 | 53 | 0.0595 | 63 | 0.0370 | 73 | 0.0240 |
| 4 | 0.2090 | 14 | 0.1820 | 24 | 0.1520 | 34 | 0.1110 | 44 | 0.0860 | 54 | 0.0550 | 64 | 0.0360 | 74 | 0.0225 |
| 5 | 0.2055 | 15 | 0.1800 | 25 | 0.1495 | 35 | 0.1100 | 45 | 0.0820 | 55 | 0.0520 | 65 | 0.0350 | 75 | 0.0210 |
| 6 | 0.2040 | 16 | 0.1770 | 26 | 0.1470 | 36 | 0.1065 | 46 | 0.0810 | 56 | 0.0465 | 66 | 0.0330 | 76 | 0.0200 |
| 7 | 0.2010 | 17 | 0.1730 | 27 | 0.1440 | 37 | 0.1040 | 47 | 0.0785 | 57 | 0.0430 | 67 | 0.0320 | 77 | 0.0180 |
| 8 | 0.1990 | 18 | 0.1695 | 28 | 0.1405 | 38 | 0.1015 | 48 | 0.0760 | 58 | 0.0420 | 68 | 0.0310 | 78 | 0.0160 |
| 9 | 0.1960 | 19 | 0.1660 | 29 | 0.1360 | 39 | 0.0995 | 49 | 0.0730 | 59 | 0.0410 | 69 | 0.0292 | 79 | 0.0145 |
| 10 | 0.1935 | 20 | 0.1610 | 30 | 0.1285 | 40 | 0.0980 | 50 | 0.0700 | 60 | 0.0400 | 70 | 0.0280 | 80 | 0.0135 |

## Decimal Equivalents of Letter Size Drills

| Letter | Size of Drill in Inches | Letter | Size of Drill in Inches | Letter | Size of Drill in Inches | Letter | Size of Drill in Inches | Letter | Size of Drill in Inches | Letter | Size of Drill in Inches | Letter | Size of Drill in Inches | Letter | Size of Drill in Inches | Letter | Size of Drill in Inches |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Z | 0.413 | W | 0.386 | T | 0.358 | Q | 0.332 | N | 0.302 | K | 0.281 | H | 0.266 | E | 0.250 | B | 0.238 |
| Y | 0.404 | V | 0.377 | S | 0.348 | P | 0.323 | M | 0.295 | J | 0.277 | G | 0.261 | D | 0.246 | A | 0.234 |
| X | 0.397 | U | 0.368 | R | 0.339 | O | 0.316 | L | 0.290 | I | 0.272 | F | 0.257 | C | 0.242 | | |

## Basic Screw Thread Dimensions and Tap Drill Sizes of American National Coarse and Fine Thread Series

| Screw Size | Threads per Inch | | Basic Dimensions in Inches | | | | Commercial Tap Drill to Produce Approx. 75% Full Thread | | Body Drill | Decimal Equiv. | Screw Size | Threads per Inch | | Basic Dimensions in Inches | | | | Commercial Tap Drill to Produce Approx. 75% Full Thread | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | N C Coarse Thrd. Series | N F Fine Thrd. Series | Major Diam. | Pitch Diam. | Single Depth of Thrd. | Minor or Root Diam. | Tap Drill | Decimal Equiv. | | | | N C Coarse Thrd. Series | N F Fine Thrd. Series | Major Diam. | Pitch Diam. | Single Depth of Thread | Minor or Root Diam. | Tap Drill | Decimal Equiv. |
| 0 | ... | 80 | .060 | .0519 | .00812 | .0438 | 3/64 | .0469 | 52 | .0635 | 7/16 | 14 | ... | .4375 | .3911 | .04639 | .3447 | U | .3680 |
| 1 | 64 | ... | .073 | .0629 | .01015 | .0527 | 53 | .0595 | 47 | .0785 | 7/16 | ... | 20 | .4375 | .4050 | .03248 | .3725 | 25/64 | .3906 |
| 1 | ... | 72 | .073 | .0640 | .00902 | .0550 | 53 | .0595 | 47 | .0785 | 1/2 | 13 | ... | .5000 | .4500 | .04996 | .4001 | 27/64 | .4219 |
| 2 | 56 | ... | .086 | .0744 | .01160 | .0628 | 50 | .0700 | 42 | .0935 | 1/2 | ... | 20 | .5000 | .4675 | .03248 | .4350 | 29/64 | .4531 |
| 2 | ... | 64 | .086 | .0759 | .01015 | .0657 | 50 | .0700 | 42 | .0935 | 9/16 | 12 | ... | .5625 | .5084 | .05413 | .4542 | 31/64 | .4844 |
| 3 | 48 | ... | .099 | .0855 | .01353 | .0719 | 47 | .0785 | 37 | .1040 | 9/16 | ... | 18 | .5625 | .5264 | .03608 | .4903 | 33/64 | .5156 |
| 3 | ... | 56 | .099 | .0874 | .01160 | .0758 | 45 | .0820 | 37 | .1040 | 5/8 | 11 | ... | .6250 | .5660 | .05905 | .5069 | 17/32 | .5313 |
| 4 | 40 | ... | .112 | .0958 | .01624 | .0795 | 43 | .0890 | 31 | .1200 | 5/8 | ... | 18 | .6250 | .5889 | .03608 | .5528 | 37/64 | .5781 |
| 4 | ... | 48 | .112 | .0985 | .01353 | .0849 | 42 | .0935 | 31 | .1200 | 3/4 | 10 | ... | .7500 | .6850 | .06495 | .6201 | 21/32 | .6562 |
| 5 | 40 | ... | .125 | .1088 | .01624 | .0925 | 38 | .1015 | 29 | .1360 | 3/4 | ... | 16 | .7500 | .7094 | .04059 | .6688 | 11/16 | .6875 |
| 5 | ... | 44 | .125 | .1102 | .01476 | .0955 | 37 | .1040 | 29 | .1360 | 7/8 | 9 | ... | .8750 | .8028 | .07217 | .7307 | 45/64 | .7656 |
| 6 | 32 | ... | .138 | .1177 | .02030 | .0974 | 36 | .1065 | 27 | .1440 | 7/8 | ... | 14 | .8750 | .8286 | .04639 | .7822 | 13/16 | .8125 |
| 6 | ... | 40 | .138 | .1218 | .01624 | .1055 | 33 | .1130 | 27 | .1440 | | | | | | | | | |
| 8 | 32 | ... | .164 | .1437 | .02030 | .1234 | 29 | .1360 | 18 | .1695 | 1 | 8 | ... | 1.0000 | .9188 | .08119 | .8376 | 7/8 | .8750 |
| 8 | ... | 36 | .164 | .1460 | .01804 | .1279 | 29 | .1360 | 18 | .1695 | 1 | ... | 14 | 1.0000 | .9536 | .04639 | .9072 | 15/16 | .9375 |
| 10 | 24 | ... | .190 | .1629 | .02706 | .1359 | 25 | .1495 | 9 | .1960 | 1 1/8 | 7 | ... | 1.1250 | 1.0322 | .09279 | .9394 | 63/64 | .9844 |
| 10 | ... | 32 | .190 | .1697 | .02030 | .1494 | 21 | .1590 | 9 | .1960 | 1 1/8 | ... | 12 | 1.1250 | 1.0709 | .05413 | 1.0167 | 1 1/64 | 1.0469 |
| 12 | 24 | ... | .216 | .1889 | .02706 | .1619 | 16 | .1770 | 2 | .2210 | 1 1/4 | 7 | ... | 1.2500 | 1.1572 | .09279 | 1.0644 | 1 1/64 | 1.1094 |
| 12 | ... | 28 | .216 | .1928 | .02320 | .1696 | 14 | .1820 | 2 | .2210 | 1 1/4 | ... | 12 | 1.2500 | 1.1959 | .05413 | 1.1417 | 1 5/64 | 1.1719 |
| | | | | | | | | | | | 1 3/8 | 6 | ... | 1.3750 | 1.2667 | .10825 | 1.1585 | 1 7/32 | 1.2188 |
| 1/4 | 20 | ... | .2500 | .2175 | .03248 | .1850 | 7 | .2010 | .. | ..... | 1 3/8 | ... | 12 | 1.3750 | 1.3209 | .05413 | 1.2667 | 1 13/64 | 1.2969 |
| 1/4 | ... | 28 | .2500 | .2268 | .02320 | .2036 | 3 | .2130 | .. | ..... | 1 1/2 | 6 | ... | 1.5000 | 1.3917 | .10825 | 1.2835 | 1 11/32 | 1.3438 |
| 5/16 | 18 | ... | .3125 | .2764 | .03608 | .2403 | F | .2570 | .. | ..... | 1 1/2 | ... | 12 | 1.5000 | 1.4459 | .05413 | 1.3917 | 1 27/64 | 1.4219 |
| 5/16 | ... | 24 | .3125 | .2854 | .02706 | .2584 | I | .2720 | .. | ..... | 1 3/4 | 5 | ... | 1.7500 | 1.6201 | .12990 | 1.4902 | 1 3/8 | 1.5625 |
| 3/8 | 16 | ... | .3750 | .3344 | .04059 | .2938 | 5/16 | .3125 | .. | ..... | | | | | | | | | |
| 3/8 | ... | 24 | .3750 | .3479 | .02706 | .3209 | Q | .3320 | .. | ..... | 2 | 4 1/2 | ... | 2.0000 | 1.8557 | .14434 | 1.7113 | 1 25/32 | 1.7813 |

N C = American National Coarse Thread Series. N F = American National Fine Thread Series.
Pitch Diameter = Major diameter minus single depth of thread.
Single Depth of Thread = .6495 ÷ Number of threads per inch.
Tap Drill: To find the diameter of a tap drill that will allow approximately 75% full thread, subtract the pitch (which is 1 ÷ number of threads per inch) from the major diameter. The result will be the diameter of the drill. Select the drill nearest to this size.

## Different Standards for Wire Gages in Use in the United States

### Dimensions of Sizes in Decimal Parts of an Inch

| Number of Wire Gage | American or B. & S. | Birmingham or Stubs' Iron Wire | Washburn & Moen, Worcester, Mass. | W. & M. Steel Music Wire | New American S. & W. Co.'s Music Wire Gage | Imperial Wire Gage | Stubs' Steel Wire | U. S. Standard Gage for Sheet and Plate Iron and Steel | Number of Wire Gage | American or B. & S. | Birmingham or Stubs' Iron Wire | Washburn & Moen, Worcester, Mass. | W. & M. Steel Music Wire | New American S. & W. Co.'s Music Wire Gage | Imperial Wire Gage | Stubs' Steel Wire | U. S. Standard Gage for Sheet and Plate Iron and Steel |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 00000000 | ..... | ..... | ..... | .0083 | ..... | ..... | ..... | ..... | 17 | .045257 | .058 | .0540 | .0377 | .039 | .056 | .172 | .05625 |
| 0000000 | ..... | ..... | ..... | .0087 | ..... | ..... | ..... | ..... | 18 | .040303 | .049 | .0475 | .0395 | .041 | .048 | .168 | .050 |
| 000000 | ..... | ..... | ..... | .0095 | .004 | .464 | ..... | .46875 | 19 | .03589 | .042 | .0410 | .0414 | .043 | .040 | .164 | .04375 |
| 00000 | ..... | ..... | ..... | .010 | .005 | .432 | ..... | .4375 | 20 | .031961 | .035 | .0348 | .0434 | .045 | .036 | .161 | .0375 |
| 0000 | .460 | .454 | .3938 | .011 | .006 | .400 | ..... | .40625 | 21 | .028462 | .032 | .03175 | .046 | .047 | .032 | .157 | .034375 |
| 000 | .40964 | .425 | .3625 | .012 | .007 | .372 | ..... | .375 | 22 | .025347 | .028 | .0286 | .0483 | .049 | .028 | .155 | .03125 |
| 00 | .3648 | .380 | .3310 | .0133 | .008 | .348 | ..... | .34375 | 23 | .022571 | .025 | .0258 | .051 | .051 | .024 | .153 | .028125 |
| 0 | .32486 | .340 | .3065 | .0144 | .009 | .324 | ..... | .3125 | 24 | .0201 | .022 | .0230 | .055 | .055 | .022 | .151 | .025 |
| 1 | .2893 | .300 | .2830 | .0156 | .010 | .300 | .227 | .28125 | 25 | .0179 | .020 | .0204 | .0586 | .059 | .020 | .148 | .021875 |
| 2 | .25763 | .284 | .2625 | .0166 | .011 | .276 | .219 | .265625 | 26 | .01594 | .018 | .0181 | .0626 | .063 | .018 | .146 | .01875 |
| 3 | .22942 | .259 | .2437 | .0178 | .012 | .252 | .212 | .250 | 27 | .014195 | .016 | .0173 | .0658 | .067 | .0164 | .143 | .0171875 |
| 4 | .20431 | .238 | .2253 | .0188 | .013 | .232 | .207 | .234375 | 28 | .012641 | .014 | .0162 | .072 | .071 | .0149 | .139 | .015625 |
| 5 | .18194 | .220 | .2070 | .0202 | .014 | .212 | .204 | .21875 | 29 | .011257 | .013 | .0150 | .076 | .075 | .0136 | .134 | .0140625 |
| 6 | .16202 | .203 | .1920 | .0215 | .016 | .192 | .201 | .203125 | 30 | .010025 | .012 | .0140 | .080 | .080 | .0124 | .127 | .0125 |
| 7 | .14428 | .180 | .1770 | .023 | .018 | .176 | .199 | .1875 | 31 | .008928 | .010 | .0132 | ..... | .085 | .0116 | .120 | .0109375 |
| 8 | .12849 | .165 | .1620 | .0243 | .020 | .160 | .197 | .171875 | 32 | .00795 | .009 | .0128 | ..... | .090 | .0108 | .115 | .01015625 |
| 9 | .11443 | .148 | .1483 | .0256 | .022 | .144 | .194 | .15625 | 33 | .00708 | .008 | .0118 | ..... | .095 | .0100 | .112 | .009375 |
| 10 | .10189 | .134 | .1350 | .027 | .024 | .128 | .191 | .140625 | 34 | .006304 | .007 | .0104 | ..... | ..... | .0092 | .110 | .00859375 |
| 11 | .090742 | .120 | .1205 | .0284 | .026 | .116 | .188 | .125 | 35 | .005614 | .005 | .0095 | ..... | ..... | .0084 | .108 | .0078125 |
| 12 | .080808 | .109 | .1055 | .0296 | .029 | .104 | .185 | .109375 | 36 | .005 | .004 | .0090 | ..... | ..... | .0076 | .106 | .00703125 |
| 13 | .071961 | .095 | .0915 | .0314 | .031 | .092 | .182 | .09375 | 37 | .004453 | ..... | ..... | ..... | ..... | .0068 | .103 | .006640625 |
| 14 | .064084 | .083 | .0800 | .0326 | .033 | .080 | .180 | .078125 | 38 | .003965 | ..... | ..... | ..... | ..... | .0060 | .101 | .00625 |
| 15 | .057068 | .072 | .0720 | .0345 | .035 | .072 | .178 | .0703125 | 39 | .003531 | ..... | ..... | ..... | ..... | .0052 | .099 | ..... |
| 16 | .05082 | .065 | .0625 | .036 | .037 | .064 | .175 | .0625 | 40 | .003144 | ..... | ..... | ..... | ..... | .0048 | .097 | ..... |

## High Temperatures Judged by Color

### Colors for Tempering

| Degrees Centigrade | Degrees Fahrenheit | Heat Temperatures Judged by Color | Degrees Centigrade | Degrees Fahrenheit | Colors for Tempering |
|---|---|---|---|---|---|
| 400 | 752 | Red Heat, Visible in the Dark | 221.1 | 430 | Very Pale Yellow |
| 474 | 885 | Red Heat, Visible in the Twilight | 226.7 | 440 | Light Yellow |
| 525 | 975 | Red Heat, Visible in the Daylight | 232.2 | 450 | Pale Straw-Yellow |
| 581 | 1077 | Red Heat, Visible in the Sunlight | 237.8 | 460 | Straw-Yellow |
| 700 | 1292 | Dark Red | 243.3 | 470 | Deep Straw-Yellow |
| 800 | 1472 | Dull Cherry-Red | 248.9 | 480 | Dark Yellow |
| 900 | 1652 | Cherry-Red | 254.4 | 490 | Yellow-Brown |
| 1000 | 1832 | Bright Cherry-Red | 260.0 | 500 | Brown-Yellow |
| 1100 | 2012 | Orange-Red | 265.6 | 510 | Spotted Red-Brown |
| 1200 | 2192 | Orange-Yellow | 271.1 | 520 | Brown-Purple |
| 1300 | 2372 | Yellow-White | 276.7 | 530 | Light Purple |
| 1400 | 2552 | White Welding Heat | 282.2 | 540 | Full Purple |
| 1500 | 2732 | Brilliant White | 287.8 | 550 | Dark Purple |
| 1600 | 2912 | Dazzling White (Bluish-White) | 293.3 | 560 | Full Blue |
| | | | 298.9 | 570 | Dark Blue |

## Thermometer Temperatures

| | Boiling Point Degrees | Freezing Point Degrees |
|---|---|---|
| Centigrade | 100 | 0 |
| Fahrenheit | 212 | 32 |

### Comparison of Centigrade and Fahrenheit

Let **C** = No. of Degrees Centigrade; **F** = No. of Degrees Fahrenheit

Then to convert Centigrade to Fahrenheit: $\frac{9C}{5}+32=F$

Fahrenheit to Centigrade: $\frac{5(F-32)}{9}=C$

Absolute Temperature: $-273.1\ C=-459.6F$

## Sizes of Tap Drills Briggs Pipe Standard

| Size of Tap, No. | Size of Drill, No. | Size of Tap, No. | Size of Drill, No. | Size of Tap, No. | Size of Drill, No. | Size of Tap, No. | Size of Drill, No. |
|---|---|---|---|---|---|---|---|
| 1/8–27 | R | 1/2–14 | 33/64 | 1 1/4–11 1/2 | 1 1/32 | 2 1/2–8 | 2 5/8 |
| 1/4–18 | 3/16 | 3/4–14 | 29/64 | 1 1/2–11 1/2 | 1 47/64 | 3–8 | 3 1/4 |
| 3/8–18 | 21/64 | 1–11 1/2 | 1 5/32 | 2 –11 1/2 | 2 7/32 | ..... | ... |

## Table of Pitch Diameters

## For Whitworth Standard of Screw Threads

**Caliper Reading or Pitch Diameter for Whitworth Threads** $= D-\frac{.640}{N}$

| Diameter Inches D | Threads per Inch N | Caliper Reading or Pitch Diameter $D-\frac{.640}{N}$ | Single Depth of Thread $\frac{.640}{N}$ | Diameter Inches D | Threads per Inch N | Caliper Reading or Pitch Diameter $D-\frac{.640}{N}$ | Single Depth of Thread $\frac{.640}{N}$ | Diameter Inches D | Threads per Inch N | Caliper Reading or Pitch Diameter $D-\frac{.640}{N}$ | Single Depth of Thread $\frac{.640}{N}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ..... | 48 | ..... | .0133 | ... | 24 | ..... | .0267 | 7/8 | 9 | .8039 | .0711 |
| ..... | 46 | ..... | .0139 | ... | 22 | ..... | .0291 | 15/16 | 9 | .8664 | .0711 |
| ..... | 44 | ..... | .0146 | 1/4 | 20 | .2180 | .0320 | 1 | 8 | .9200 | .0800 |
| ..... | 42 | ..... | .0152 | 5/16 | 18 | .2769 | .0355 | 1 1/8 | 7 | 1.0336 | .0914 |
| ..... | 40 | ..... | .0160 | 3/8 | 16 | .3350 | .0400 | 1 1/4 | 7 | 1.1586 | .0914 |
| ..... | 38 | ..... | .0168 | 7/16 | 14 | .3918 | .0457 | 1 3/8 | 6 | 1.2684 | .1066 |
| ..... | 36 | ..... | .0178 | 1/2 | 12 | .4467 | .0533 | 1 1/2 | 6 | 1.3934 | .1066 |
| ..... | 34 | ..... | .0188 | 9/16 | 12 | .5092 | .0533 | 1 5/8 | 5 | 1.4970 | .1280 |
| ..... | 32 | ..... | .0200 | 5/8 | 11 | .5668 | .0582 | 1 3/4 | 5 | 1.6220 | .1280 |
| ..... | 30 | ..... | .0213 | 11/16 | 11 | .6293 | .0582 | 1 7/8 | 4 1/2 | 1.7328 | .1422 |
| ..... | 28 | ..... | .0229 | 3/4 | 10 | .6860 | .0640 | 2 | 4 1/2 | 1.8578 | .1422 |
| ..... | 26 | ..... | .0246 | 13/16 | 10 | .7485 | .0640 | 2 1/8 | 4 1/2 | 1.9828 | .1422 |

Table of Pitch Diameters for Metric Standard of Screw Threads, See Page 154.

## Tapers Per Foot and Corresponding Angles

| Taper per Foot | INCLUDED ANGLE | | | ANGLE WITH CENTER LINE | | |
|---|---|---|---|---|---|---|
| | Deg. | Min. | Sec. | Deg. | Min. | Sec. |
| 1/64 | 0 | 4 | 28 | 0 | 2 | 14 |
| 1/32 | 0 | 8 | 58 | 0 | 4 | 29 |
| 1/16 | 0 | 17 | 54 | 0 | 8 | 57 |
| 3/32 | 0 | 26 | 52 | 0 | 13 | 26 |
| 1/8 | 0 | 35 | 48 | 0 | 17 | 54 |
| 5/32 | 0 | 44 | 44 | 0 | 22 | 22 |
| 3/16 | 0 | 53 | 44 | 0 | 26 | 52 |
| 7/32 | 1 | 2 | 34 | 0 | 31 | 17 |
| 1/4 | 1 | 11 | 36 | 0 | 35 | 48 |
| 9/32 | 1 | 20 | 30 | 0 | 40 | 15 |
| 5/16 | 1 | 29 | 30 | 0 | 44 | 45 |
| 11/32 | 1 | 38 | 22 | 0 | 49 | 11 |
| 3/8 | 1 | 47 | 24 | 0 | 53 | 42 |
| 13/32 | 1 | 56 | 24 | 0 | 58 | 12 |
| 7/16 | 2 | 5 | 18 | 1 | 2 | 39 |
| 15/32 | 2 | 14 | 16 | 1 | 7 | 8 |
| 1/2 | 2 | 23 | 10 | 1 | 11 | 35 |
| 17/32 | 2 | 32 | 4 | 1 | 16 | 2 |
| 9/16 | 2 | 41 | 4 | 1 | 20 | 32 |
| 19/32 | 2 | 50 | 2 | 1 | 25 | 1 |
| 5/8 | 2 | 59 | 2 | 1 | 29 | 31 |
| 21/32 | 3 | 7 | 56 | 1 | 33 | 58 |
| 11/16 | 3 | 16 | 54 | 1 | 38 | 27 |
| 23/32 | 3 | 25 | 50 | 1 | 42 | 55 |
| 3/4 | 3 | 34 | 44 | 1 | 47 | 22 |
| 25/32 | 3 | 43 | 44 | 1 | 51 | 52 |
| 13/16 | 3 | 52 | 38 | 1 | 56 | 19 |
| 27/32 | 4 | 1 | 36 | 2 | 0 | 48 |
| 7/8 | 4 | 10 | 32 | 2 | 5 | 16 |
| 29/32 | 4 | 19 | 34 | 2 | 9 | 47 |
| 15/16 | 4 | 28 | 24 | 2 | 14 | 12 |
| 31/32 | 4 | 37 | 20 | 2 | 18 | 40 |
| 1 | 4 | 46 | 18 | 2 | 23 | 9 |
| 1 1/16 | 5 | 4 | 12 | 2 | 32 | 6 |
| 1 1/8 | 5 | 21 | 44 | 2 | 40 | 52 |
| 1 3/16 | 5 | 39 | 54 | 2 | 49 | 57 |
| 1 1/4 | 5 | 57 | 48 | 2 | 58 | 54 |
| 1 5/16 | 6 | 15 | 38 | 3 | 7 | 49 |
| 1 3/8 | 6 | 33 | 26 | 3 | 16 | 43 |
| 1 7/16 | 6 | 51 | 20 | 3 | 25 | 40 |
| 1 1/2 | 7 | 9 | 10 | 3 | 34 | 35 |
| 1 9/16 | 7 | 26 | 58 | 3 | 43 | 29 |
| 1 5/8 | 7 | 44 | 48 | 3 | 52 | 24 |
| 1 11/16 | 8 | 2 | 38 | 4 | 1 | 19 |
| 1 3/4 | 8 | 20 | 26 | 4 | 10 | 13 |
| 1 13/16 | 8 | 38 | 16 | 4 | 19 | 8 |
| 1 7/8 | 8 | 56 | 2 | 4 | 28 | 1 |
| 1 15/16 | 9 | 13 | 50 | 4 | 36 | 55 |
| 2 | 9 | 31 | 36 | 4 | 45 | 48 |
| 2 1/8 | 10 | 7 | 10 | 5 | 3 | 35 |
| 2 1/4 | 10 | 42 | 42 | 5 | 21 | 21 |
| 2 3/8 | 11 | 18 | 10 | 5 | 39 | 5 |
| 2 1/2 | 11 | 53 | 36 | 5 | 56 | 48 |
| 2 5/8 | 12 | 29 | 2 | 6 | 14 | 31 |
| 2 3/4 | 13 | 4 | 24 | 6 | 32 | 12 |
| 2 7/8 | 13 | 39 | 42 | 6 | 49 | 51 |
| 3 | 14 | 15 | 0 | 7 | 7 | 30 |
| 3 1/8 | 14 | 50 | 14 | 7 | 25 | 7 |
| 3 1/4 | 15 | 25 | 24 | 7 | 42 | 42 |
| 3 3/8 | 16 | 0 | 34 | 8 | 0 | 17 |
| 3 1/2 | 16 | 35 | 40 | 8 | 17 | 50 |
| 3 5/8 | 17 | 10 | 40 | 8 | 35 | 20 |
| 3 3/4 | 17 | 45 | 40 | 8 | 52 | 50 |
| 3 7/8 | 18 | 20 | 34 | 9 | 10 | 17 |
| 4 | 18 | 55 | 28 | 9 | 27 | 44 |
| 4 1/8 | 19 | 30 | 18 | 9 | 45 | 9 |
| 4 1/4 | 20 | 5 | 2 | 10 | 2 | 31 |
| 4 3/8 | 20 | 39 | 44 | 10 | 19 | 52 |
| 4 1/2 | 21 | 14 | 2 | 10 | 37 | 1 |
| 4 5/8 | 21 | 48 | 54 | 10 | 54 | 27 |
| 4 3/4 | 22 | 23 | 22 | 11 | 11 | 41 |
| 4 7/8 | 22 | 57 | 48 | 11 | 28 | 54 |
| 5 | 23 | 32 | 12 | 11 | 46 | 6 |
| 5 1/8 | 24 | 6 | 28 | 12 | 3 | 14 |
| 5 1/4 | 24 | 40 | 42 | 12 | 20 | 21 |
| 5 3/8 | 25 | 14 | 48 | 12 | 37 | 24 |
| 5 1/2 | 25 | 48 | 48 | 12 | 54 | 24 |
| 5 5/8 | 26 | 22 | 52 | 13 | 11 | 26 |
| 5 3/4 | 26 | 56 | 46 | 13 | 28 | 23 |
| 5 7/8 | 27 | 30 | 34 | 13 | 45 | 17 |
| 6 | 28 | 4 | 2 | 14 | 2 | 1 |
| 6 1/8 | 28 | 37 | 58 | 14 | 18 | 59 |
| 6 1/4 | 29 | 11 | 34 | 14 | 35 | 47 |
| 6 3/8 | 29 | 45 | 18 | 14 | 52 | 39 |
| 6 1/2 | 30 | 18 | 26 | 15 | 9 | 13 |
| 6 5/8 | 30 | 51 | 48 | 15 | 25 | 54 |
| 6 3/4 | 31 | 25 | 2 | 15 | 42 | 31 |
| 6 7/8 | 31 | 58 | 10 | 15 | 59 | 5 |
| 7 | 32 | 31 | 12 | 16 | 15 | 36 |
| 7 1/8 | 33 | 4 | 8 | 16 | 32 | 4 |
| 7 1/4 | 33 | 36 | 40 | 16 | 48 | 20 |
| 7 3/8 | 34 | 9 | 50 | 17 | 4 | 55 |

## Standard Lumber Measurement Table

| Size Inches | LENGTH IN FEET OF JOISTS, SCANTLING AND TIMBER | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 12 | 14 | 16 | 18 | 20 | 22 | 24 | 26 | 28 | 30 |
| 2x 4 | 8 | 9 | 11 | 12 | 13 | 15 | 16 | 17 | 19 | 20 |
| 2x 6 | 12 | 14 | 16 | 18 | 20 | 22 | 24 | 26 | 28 | 30 |
| 2x 3 | 16 | 19 | 21 | 24 | 27 | 29 | 32 | 35 | 37 | 40 |
| 2x10 | 20 | 23 | 27 | 30 | 33 | 37 | 40 | 43 | 47 | 50 |
| 2x12 | 24 | 28 | 32 | 36 | 40 | 44 | 48 | 52 | 56 | 60 |
| 2x14 | 28 | 33 | 37 | 42 | 47 | 51 | 56 | 61 | 65 | 70 |
| 3x 4 | 12 | 14 | 16 | 18 | 20 | 22 | 24 | 26 | 28 | 30 |
| 3x 6 | 18 | 21 | 24 | 27 | 30 | 33 | 36 | 39 | 42 | 45 |
| 3x 8 | 24 | 28 | 32 | 36 | 40 | 44 | 48 | 52 | 56 | 60 |
| 3x10 | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 65 | 70 | 75 |
| 3x12 | 36 | 42 | 48 | 54 | 60 | 66 | 72 | 78 | 84 | 90 |
| 3x14 | 42 | 49 | 56 | 63 | 70 | 77 | 84 | 91 | 98 | 105 |
| 4x 4 | 16 | 19 | 21 | 24 | 27 | 29 | 32 | 35 | 37 | 40 |
| 4x 6 | 24 | 28 | 32 | 36 | 40 | 44 | 48 | 52 | 56 | 60 |
| 4x 8 | 32 | 37 | 43 | 48 | 53 | 59 | 64 | 69 | 75 | 80 |
| 4x10 | 40 | 47 | 53 | 60 | 67 | 73 | 80 | 87 | 93 | 100 |
| 4x12 | 48 | 56 | 64 | 72 | 80 | 88 | 96 | 104 | 112 | 120 |
| 6x 6 | 36 | 42 | 48 | 54 | 70 | 66 | 72 | 78 | 84 | 90 |
| 6x 8 | 48 | 56 | 64 | 72 | 80 | 88 | 96 | 104 | 112 | 120 |
| 6x10 | 60 | 70 | 80 | 90 | 100 | 110 | 120 | 130 | 140 | 150 |
| 6x12 | 72 | 84 | 96 | 108 | 120 | 132 | 144 | 156 | 168 | 180 |
| 8x 8 | 64 | 75 | 85 | 86 | 107 | 117 | 128 | 139 | 149 | 160 |
| 8x10 | 80 | 93 | 107 | 120 | 133 | 147 | 160 | 173 | 187 | 200 |
| 8x12 | 96 | 112 | 128 | 144 | 160 | 176 | 192 | 208 | 224 | 240 |
| 10x10 | 100 | 117 | 133 | 150 | 167 | 183 | 200 | 217 | 233 | 250 |
| 10x12 | 120 | 140 | 160 | 180 | 200 | 220 | 240 | 260 | 280 | 300 |
| 12x12 | 144 | 168 | 192 | 216 | 240 | 264 | 288 | 313 | 336 | 360 |
| 12x14 | 168 | 196 | 224 | 252 | 280 | 308 | 336 | 364 | 392 | 420 |
| 14x14 | 196 | 229 | 261 | 294 | 327 | 359 | 392 | 425 | 457 | 490 |

## Estimated Weights of Lumber

| Type | Pounds per Sq. Ft. |
|---|---|
| Walnut, Dry | 4 |
| Walnut, Green | 5 |
| Cherry, Dry | 3½ |
| Cherry, Green | 4¼ |
| Ash, Dry | 3½ |
| Ash, Green | 4½ |
| Maple, Dry | 4½ |
| Maple, Green | 6 |
| Hickory, Dry | 5 |
| Hickory, Green | 6¼ |
| Oak, Dry | 4¼ |
| Oak, Green | 5¾ |
| Sycamore, Dry | 3¾ |
| Sycamore, Green | 4¾ |
| Chesnut, Dry | 3½ |
| Chesnut, Green | 4½ |
| Basswood, Dry | 2½ |
| Basswood, Green | 4 |
| Butternut, Dry | 3 |
| Butternut, Green | 4 |
| Whitewood, Dry | 2¾ |
| Whitewood, Green | 4 |

# Tapers

## Tapers from 1/16 to 1 1/4 Inch per Foot—Amount of Taper for Lengths Up to 24 Inches

| Length Tapered, Inches | TAPER PER FOOT | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1/16 | 3/32 | 1/8 | 1/4 | 3/8 | 1/2 | 5/8 | 3/4 | 1 | 1 1/4 |
| 1/32 | .0002 | .0002 | .0003 | .0007 | .0010 | .0013 | .0016 | .0020 | .0026 | .0033 |
| 1/16 | .0003 | .0005 | .0007 | .0013 | .0020 | .0026 | .0033 | .0039 | .0052 | .0065 |
| 1/8 | .0007 | .0010 | .0013 | .0026 | .0039 | .0052 | .0065 | .0078 | .0104 | .0130 |
| 3/16 | .0010 | .0015 | .0020 | .0039 | .0059 | .0078 | .0098 | .0117 | .0156 | .0195 |
| 1/4 | .0013 | .0020 | .0026 | .0052 | .0078 | .0104 | .0130 | .0156 | .0208 | .0260 |
| 5/16 | .0016 | .0024 | .0033 | .0065 | .0098 | .0130 | .0163 | .0195 | .0260 | .0326 |
| 3/8 | .0020 | .0029 | .0039 | .0078 | .0117 | .0156 | .0195 | .0234 | .0312 | .0391 |
| 7/16 | .0023 | .0034 | .0046 | .0091 | .0137 | .0182 | .0228 | .0273 | .0365 | .0456 |
| 1/2 | .0026 | .0039 | .0052 | .0104 | .0156 | .0208 | .0260 | .0312 | .0417 | .0521 |
| 9/16 | .0029 | .0044 | .0059 | .0117 | .0176 | .0234 | .0293 | .0352 | .0469 | .0586 |
| 5/8 | .0033 | .0049 | .0065 | .0130 | .0195 | .0260 | .0326 | .0391 | .0521 | .0651 |
| 11/16 | .0036 | .0054 | .0072 | .0143 | .0215 | .0286 | .0358 | .0430 | .0573 | .0716 |
| 3/4 | .0039 | .0059 | .0078 | .0156 | .0234 | .0312 | .0391 | .0469 | .0625 | .0781 |
| 13/16 | .0042 | .0063 | .0085 | .0169 | .0254 | .0339 | .0423 | .0508 | .0677 | .0846 |
| 7/8 | .0046 | .0068 | .0091 | .0182 | .0273 | .0365 | .0456 | .0547 | .0729 | .0911 |
| 15/16 | .0049 | .0073 | .0098 | .0195 | .0293 | .0391 | .0488 | .0586 | .0781 | .0977 |
| 1 | .0052 | .0078 | .0104 | .0208 | .0312 | .0417 | .0521 | .0625 | .0833 | .1042 |
| 2 | .0104 | .0156 | .0208 | .0417 | .0625 | .0833 | .1042 | .125 | .1667 | .2083 |
| 3 | .0156 | .0234 | .0312 | .0625 | .0937 | .1250 | .1562 | .1875 | .250 | .3125 |
| 4 | .0208 | .0312 | .0417 | .0833 | .125 | .1667 | .2083 | .250 | .3333 | .4167 |
| 5 | .0260 | .0391 | .0521 | .1042 | .1562 | .2083 | .2604 | .3125 | .4167 | .5208 |
| 6 | .0312 | .0469 | .0625 | .125 | .1875 | .250 | .3125 | .375 | .500 | .625 |
| 7 | .0365 | .0547 | .0729 | .1458 | .2187 | .2917 | .3646 | .4375 | .5833 | .7292 |
| 8 | .0417 | .0625 | .0833 | .1667 | .250 | .3333 | .4167 | .500 | .6667 | .8333 |
| 9 | .0469 | .0703 | .0937 | .1875 | .2812 | .375 | .4687 | .5625 | .750 | .9375 |
| 10 | .0521 | .0781 | .1042 | .2083 | .3125 | .4167 | .5208 | .625 | .8333 | 1.0417 |
| 11 | .0573 | .0859 | .1146 | .2292 | .3437 | .4583 | .5729 | .6875 | .9167 | 1.1458 |
| 12 | .0625 | .0937 | .125 | .250 | .375 | .500 | .625 | .750 | 1.000 | 1.250 |
| 13 | .0677 | .1016 | .1354 | .2708 | .4062 | .5417 | .6771 | .8125 | 1.0833 | 1.3542 |
| 14 | .0729 | .1094 | .1458 | .2917 | .4375 | .5833 | .7292 | .875 | 1.1667 | 1.4583 |
| 15 | .0781 | .1172 | .1562 | .3125 | .4687 | .625 | .7812 | .9375 | 1.250 | 1.5625 |
| 16 | .0833 | .125 | .1667 | .3333 | .500 | .6667 | .8333 | 1.000 | 1.3333 | 1.6667 |
| 17 | .0885 | .1328 | .1771 | .3542 | .5312 | .7083 | .8854 | 1.0625 | 1.4167 | 1.7708 |
| 18 | .0937 | .1406 | .1875 | .3750 | .5625 | .750 | .9375 | 1.125 | 1.500 | 1.875 |
| 19 | .0990 | .1484 | .1979 | .3958 | .5937 | .7917 | .9896 | 1.1875 | 1.5833 | 1.9792 |
| 20 | .1042 | .1562 | .2083 | .4167 | .625 | .8333 | 1.0417 | 1.250 | 1.6667 | 2.0833 |
| 21 | .1094 | .1641 | .2187 | .4375 | .6562 | .875 | 1.0937 | 1.3125 | 1.750 | 2.1875 |
| 22 | .1146 | .1719 | .2292 | .4583 | .6875 | .9167 | 1.1458 | 1.375 | 1.8333 | 2.2917 |
| 23 | .1198 | .1797 | .2396 | .4792 | .7187 | .9583 | 1.1970 | 1.4375 | 1.9167 | 2.3958 |
| 24 | .125 | .1875 | .250 | .500 | .750 | 1.000 | 1.250 | 1.500 | 2.000 | 2.500 |

## Number of U.S. Gallons in Round Tank for One Foot in Depth

| DIAMETER OF TANK | | Capacity U.S. Gallons | Cubic Feet and Area Square Feet |
|---|---|---|---|
| Feet | Inches | | |
| 1 | .. | 5.87 | .785 |
| 1 | 1 | 6.89 | .922 |
| 1 | 2 | 8. | 1.069 |
| 1 | 3 | 9.18 | 1.227 |
| 1 | 4 | 10.44 | 1.396 |
| 1 | 5 | 11.79 | 1.576 |
| 1 | 6 | 13.22 | 1.767 |
| 1 | 7 | 14.73 | 1.969 |
| 1 | 8 | 16.32 | 2.182 |
| 1 | 9 | 17.99 | 2.405 |
| 1 | 10 | 19.75 | 2.640 |
| 1 | 11 | 21.58 | 2.885 |
| 2 | .. | 23.50 | 3.142 |
| 2 | 1 | 25.50 | 3.409 |
| 2 | 2 | 27.58 | 3.687 |
| 2 | 3 | 29.74 | 3.976 |
| 2 | 4 | 31.99 | 4.276 |
| 2 | 5 | 34.31 | 4.587 |
| 2 | 6 | 36.72 | 4.909 |
| 2 | 7 | 39.21 | 5.241 |
| 2 | 8 | 41.78 | 5.585 |
| 2 | 9 | 44.43 | 5.940 |
| 2 | 10 | 47.16 | 6.305 |
| 2 | 11 | 49.98 | 6.681 |
| 3 | .. | 52.88 | 7.069 |
| 3 | 1 | 55.86 | 7.467 |
| 3 | 2 | 58.92 | 7.876 |
| 3 | 3 | 62.06 | 8.296 |
| 3 | 4 | 65.28 | 8.727 |
| 3 | 5 | 68.58 | 9.168 |
| 3 | 6 | 71.97 | 9.621 |
| 3 | 7 | 75.44 | 10.085 |
| 3 | 8 | 78.99 | 10.559 |
| 3 | 9 | 82.62 | 11.045 |
| 3 | 10 | 86.33 | 11.541 |
| 3 | 11 | 90.13 | 12.048 |
| 4 | .. | 94. | 12.566 |
| 4 | 1 | 97.96 | 13.095 |
| 4 | 2 | 102. | 13.635 |
| 4 | 3 | 106.12 | 14.186 |
| 4 | 4 | 110.32 | 14.748 |
| 4 | 5 | 114.61 | 15.321 |
| 4 | 6 | 118.97 | 15.90 |
| 4 | 7 | 123.42 | 16.50 |
| 4 | 8 | 127.95 | 17.10 |
| 4 | 9 | 132.56 | 17.72 |
| 4 | 10 | 138.25 | 18.35 |
| 4 | 11 | 142.02 | 18.99 |
| 5 | .. | 146.88 | 19.63 |
| 5 | 1 | 151.82 | 20.29 |
| 5 | 2 | 156.83 | 20.97 |
| 5 | 3 | 161.93 | 21.65 |
| 5 | 4 | 167.12 | 22.34 |
| 5 | 5 | 172.38 | 23.04 |
| 5 | 6 | 177.72 | 23.76 |
| 5 | 7 | 183.15 | 24.48 |
| 5 | 8 | 188.66 | 25.22 |
| 5 | 9 | 194.25 | 25.97 |
| 5 | 10 | 199.92 | 26.73 |
| 5 | 11 | 205.67 | 27.49 |
| 6 | .. | 211.51 | 28.27 |
| 6 | 3 | 229.50 | 30.68 |
| 6 | 6 | 248.23 | 33.18 |
| 6 | 9 | 267.69 | 35.78 |
| 7 | .. | 287.88 | 38.48 |
| 7 | 3 | 308.81 | 41.28 |
| 7 | 6 | 330.48 | 44.18 |
| 7 | 9 | 352.88 | 47.17 |
| 8 | .. | 376.01 | 50.27 |
| 8 | 3 | 399.88 | 53.46 |
| 8 | 6 | 424.48 | 56.75 |
| 8 | 9 | 449.82 | 60.13 |
| 9 | .. | 475.89 | 63.62 |
| 9 | 3 | 502.70 | 67.20 |
| 9 | 6 | 530.24 | 70.88 |
| 9 | 9 | 558.51 | 74.66 |
| 10 | .. | 587.52 | 78.54 |
| 10 | 3 | 617.26 | 82.52 |
| 10 | 6 | 647.74 | 86.59 |
| 10 | 9 | 678.95 | 90.76 |
| 11 | .. | 710.90 | 95.03 |
| 11 | 3 | 743.58 | 99.40 |
| 11 | 6 | 776.99 | 103.87 |
| 11 | 9 | 811.14 | 108.43 |
| 12 | .. | 846.03 | 113.10 |
| 12 | 3 | 881.65 | 117.86 |
| 12 | 6 | 918. | 122.72 |
| 12 | 9 | 955.09 | 127.86 |
| 13 | .. | 992.91 | 132.72 |
| 13 | 3 | 1031.5 | 137.89 |
| 13 | 6 | 1070.8 | 143.14 |
| 13 | 9 | 1110.8 | 148.49 |
| 14 | .. | 1151.5 | 153.94 |
| 14 | 3 | 1193. | 159.48 |
| 14 | 6 | 1235.3 | 165.13 |
| 14 | 9 | 1278.2 | 170.87 |
| 15 | .. | 1321.9 | 176.71 |
| 15 | 3 | 1366.4 | 182.65 |
| 15 | 6 | 1411.5 | 188.69 |
| 15 | 9 | 1457.4 | 194.83 |
| 16 | .. | 1504.1 | 201.06 |
| 16 | 3 | 1551.4 | 207.39 |
| 16 | 6 | 1599.5 | 213.82 |
| 16 | 9 | 1648.4 | 220.35 |
| 17 | .. | 1697.9 | 226.98 |
| 17 | 3 | 1748.2 | 233.71 |
| 17 | 6 | 1799.3 | 240.53 |
| 17 | 9 | 1851.1 | 247.45 |
| 18 | .. | 1903.6 | 254.47 |
| 18 | 3 | 1956.8 | 261.59 |
| 18 | 6 | 2010.8 | 268.80 |
| 18 | 9 | 2065.5 | 276.12 |
| 19 | .. | 2120.9 | 283.53 |
| 19 | 3 | 2177.1 | 291.04 |
| 19 | 6 | 2234. | 298.65 |
| 19 | 9 | 2291.7 | 306.35 |
| 20 | .. | 2350.1 | 314.16 |
| 20 | 3 | 2409.2 | 322.06 |
| 20 | 6 | 2469.1 | 330.06 |
| 20 | 9 | 2529.6 | 338.16 |
| 21 | .. | 2591. | 346.36 |
| 21 | 3 | 2653. | 354.66 |
| 21 | 6 | 2715.8 | 363.05 |
| 21 | 9 | 2779.3 | 371.54 |
| 22 | .. | 2843.6 | 380.13 |
| 22 | 3 | 2908.6 | 388.82 |
| 22 | 6 | 2974.3 | 397.61 |
| 22 | 9 | 3040.8 | 406.49 |
| 23 | .. | 3108. | 415.48 |
| 23 | 3 | 3175.9 | 424.56 |
| 23 | 6 | 3244.6 | 433.74 |
| 23 | 9 | 3314. | 443.01 |
| 24 | .. | 3384.1 | 452.39 |
| 24 | 3 | 3455. | 461.86 |
| 24 | 6 | 3526.6 | 471.44 |
| 24 | 9 | 3597.9 | 481.11 |
| 25 | .. | 3672. | 490.87 |
| 25 | 3 | 3745.8 | 500.74 |
| 25 | 6 | 3820.3 | 510.71 |
| 25 | 9 | 3895.6 | 520.77 |
| 26 | .. | 3971.6 | 530.93 |
| 26 | 3 | 4048.4 | 541.19 |
| 26 | 6 | 4125.9 | 551.55 |
| 26 | 9 | 4204.1 | 562. |

To find the capacity of tanks larger than given in the table, set table for tank one-half of the given size, and multiply its capacity by 4, or one of one-third its size and multiply by 9, etc.

Thirty-one and one-half gallons equal one barrel.

To find the capacity of a square tank, find the capacity of a round tank with diameter same as length of side, and divide by .7854. A 10-foot diameter round tank 1 foot high holds 587.52 gallons. A square tank 10x10 feet by 1 foot high equals 587.52 divided by .7854 equals 748 gallons.

## Three-Wire Measurement of Pitch Diameter of Screw Threads

Various methods of measuring the pitch diameter of a thread, such as thread micrometers, ball point micrometers and with three wires, are commonly employed. Of the various methods which have been tried, the three-wire method has been found to be the most accurate and satisfactory when properly carried out.

### Following Are the Formulas for Use with Screw Thread Micrometer Calipers and the Three-Wire System

#### For 60° Sharp V and American National Forms

**(American National Formerly Called U. S. Standard)**

**D** = Outside Diameter of Screw.

**N** = Number of Threads per Inch.

**P** = Pitch of Thread $= \frac{1.000}{N}$

**S** = Single Depth of V Thread $= \frac{.8660}{N}$

**S** = Single Depth of U. S. Std. Thread $= \frac{.6495}{N}$

**D** = Pitch Diameter of Thread $= D - S$

**WD** = Wire Diameter $= P \times .57735$

**DW** = Diameter Over Wire $= (D - S) + (.86602 \times P)$

When selecting Wire other than correct size touching on pitch line, it should be the nearest size larger, using the following formula:

$$DW = (WD \times 3) - (P \times .866025) + D.$$

## Table of Pitch Diameters For Metric Standard of Screw Threads

| Size mm. | Pitch | | Size mm. | Pitch | | Size mm. | Pitch | | Size mm. | Pitch | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Intl. Std. | French Std. | | Intl. Std. | French Std. | | Intl. Std. | French Std. | | Intl. Std. | French Std. |
| 2 | .45 | .50 | 9 | 1.25 | 1.00 | 20 | 2.50 | 2.50 | 32 | .... | 3.50 |
| 3 | .55 | .50 | 10 | 1.50 | 1.50 | 22 | 2.50 | 2.50 | 33 | 3.50 | 3.50 |
| 4 | .70 | .75 | 11 | 1.50 | .... | 24 | 3.00 | 3.00 | 34 | .... | 3.50 |
| 5 | .85 | .75 | 12 | 1.75 | 1.50 | 26 | .... | 3.00 | 36 | 4.00 | 4.00 |
| 6 | 1.00 | 1.00 | 14 | 2.00 | 2.00 | 27 | 3.00 | .... | 38 | .... | 4.00 |
| 7 | 1.00 | 1.00 | 16 | 2.00 | 2.00 | 28 | .... | 3.00 | 39 | 4.00 | .... |
| 8 | 1.25 | 1.00 | 18 | 2.50 | 2.50 | 30 | 3.50 | 3.50 | 40 | .... | 4.00 |

## Double Depth of Threads

| Threads per Inch | Double Depth U. S. Standard Thread | Double Depth Sharp V Thread | Double Depth Whitworth Standard Thread | Threads per Inch | Double Depth U. S. Standard Thread | Double Depth Sharp V Thread | Double Depth Whitworth Standard Thread | Threads per Inch | Double Depth U. S. Standard Thread | Double Depth Sharp V Thread | Double Depth Whitworth Standard Thread | Threads per Inch | Double Depth U. S. Standard Thread | Double Depth Sharp V Thread | Double Depth Whitworth Standard Thread |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2¼ | 0.5774 | 0.7698 | 0.5692 | 9 | 0.1443 | 0.1925 | 0.1423 | 32 | 0.0406 | 0.0541 | 0.0400 | 62 | 0.0209 | 0.0279 | 0.0206 |
| 2⅜ | 0.5470 | 0.7293 | 0.5392 | 10 | 0.1299 | 0.1732 | 0.1281 | 34 | 0.0382 | 0.0509 | 0.0377 | 64 | 0.0203 | 0.0271 | 0.0200 |
| 2½ | 0.5196 | 0.6928 | 0.5123 | 11 | 0.1181 | 0.1575 | 0.1164 | 36 | 0.0361 | 0.0481 | 0.0356 | 66 | 0.0197 | 0.0263 | 0.0194 |
| 2⅝ | 0.4949 | 0.6598 | 0.4879 | 12 | 0.1083 | 0.1443 | 0.1067 | 38 | 0.0342 | 0.0456 | 0.0337 | 68 | 0.0191 | 0.0255 | 0.0188 |
| 2¾ | 0.4724 | 0.6298 | 0.4657 | 13 | 0.0999 | 0.1332 | 0.0985 | 40 | 0.0325 | 0.0433 | 0.0320 | 70 | 0.0185 | 0.0248 | 0.0183 |
| 2⅞ | 0.4518 | 0.6025 | 0.4454 | 14 | 0.0928 | 0.1237 | 0.0915 | 42 | 0.0309 | 0.0412 | 0.0305 | 72 | 0.0180 | 0.0241 | 0.0178 |
| 3 | 0.4330 | 0.5774 | 0.4269 | 15 | 0.0866 | 0.1155 | 0.0854 | 44 | 0.0295 | 0.0394 | 0.0291 | 74 | 0.0175 | 0.0234 | 0.0173 |
| 3¼ | 0.3997 | 0.5329 | 0.3940 | 16 | 0.0812 | 0.1083 | 0.0800 | 46 | 0.0282 | 0.0377 | 0.0278 | 76 | 0.0171 | 0.0228 | 0.0167 |
| 3½ | 0.3712 | 0.4949 | 0.3659 | 18 | 0.0722 | 0.0962 | 0.0711 | 48 | 0.0271 | 0.0361 | 0.0267 | 78 | 0.0167 | 0.0222 | 0.0164 |
| 4 | 0.3248 | 0.4300 | 0.3202 | 20 | 0.0650 | 0.0866 | 0.0640 | 50 | 0.0260 | 0.0346 | 0.0256 | 80 | 0.0162 | 0.0217 | 0.0160 |
| 4½ | 0.2887 | 0.3849 | 0.2846 | 22 | 0.0590 | 0.0787 | 0.0582 | 52 | 0.0250 | 0.0333 | 0.0246 | 82 | 0.0158 | 0.0211 | 0.0156 |
| 5 | 0.2598 | 0.3464 | 0.2561 | 24 | 0.0541 | 0.0722 | 0.0534 | 54 | 0.0241 | 0.0321 | 0.0237 | 84 | 0.0155 | 0.0206 | 0.0152 |
| 5½ | 0.2362 | 0.3149 | 0.2328 | 26 | 0.0500 | 0.0666 | 0.0493 | 56 | 0.0232 | 0.0309 | 0.0229 | 86 | 0.0151 | 0.0201 | 0.0148 |
| 6 | 0.2165 | 0.2887 | 0.2134 | 27 | 0.0481 | 0.0642 | 0.0474 | 58 | 0.0224 | 0.0299 | 0.0221 | 88 | 0.0148 | 0.0196 | 0.0145 |
| 7 | 0.1856 | 0.2474 | 0.1830 | 28 | 0.0464 | 0.0619 | 0.0457 | 60 | 0.0217 | 0.0289 | 0.0213 | 90 | 0.0144 | 0.0192 | 0.0142 |
| 8 | 0.1624 | 0.2165 | 0.1601 | 30 | 0.0433 | 0.0577 | 0.0427 | | | | | | | | |

Double Depth for U. S. Standard Thread $= \frac{1.299}{N}$

Double Depth for Sharp V Thread $= \frac{1.732}{N}$

Double Depth for Whitworth Standard Thread $= \frac{1.281}{N}$

# Weight of Square and Round Bars of Steel

**In Pounds Per Lineal Foot**

**Based on 489.6 Lbs. Per Cubic Foot**

**For Wrought Iron Deduct 2 Per Cent • For High-Speed Steel add 11 Per Cent**

| Thickness or Diameter, Inches | Weight of Square Bar 1 foot long | Weight of Round Bar 1 foot long | Thickness or Diameter, Inches | Weight of Square Bar 1 foot long | Weight of Round Bar 1 foot long | Thickness or Diameter, Inches | Weight of Square Bar 1 foot long | Weight of Round Bar 1 foot long | Thickness or Diameter, Inches | Weight of Square Bar 1 foot long | Weight of Round Bar 1 foot long |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/32 | .0033 | .0026 | 1 1/4 | 5.312 | 4.173 | 3 | 30.60 | 24.03 | 7 | 166.6 | 130.9 |
| 1/16 | .0133 | .0104 | 1 5/16 | 5.857 | 4.600 | 3 1/8 | 33.20 | 26.08 | 7 1/4 | 178.7 | 140.4 |
| 1/8 | .0531 | .0417 | 1 3/8 | 6.428 | 5.019 | 3 1/4 | 35.92 | 28.20 | 7 1/2 | 191.3 | 150.2 |
| 3/16 | .1195 | .0938 | 1 7/16 | 7.026 | 5.518 | 3 3/8 | 38.73 | 30.42 | 7 3/4 | 204.2 | 160.3 |
| 1/4 | .2123 | .1669 | 1 1/2 | 7.650 | 6.008 | 3 1/2 | 41.65 | 32.71 | 8 | 217.6 | 171.0 |
| 5/16 | .3333 | .2608 | 1 9/16 | 8.301 | 6.520 | 3 5/8 | 44.68 | 35.09 | 8 1/4 | 231.4 | 181.8 |
| 3/8 | .4782 | .3756 | 1 5/8 | 8.978 | 7.051 | 3 3/4 | 47.82 | 37.56 | 8 1/2 | 245.6 | 193.0 |
| 7/16 | .6508 | .5111 | 1 11/16 | 9.682 | 7.604 | 3 7/8 | 51.05 | 40.10 | 8 3/4 | 260.3 | 204.4 |
| 1/2 | .8500 | .6676 | 1 3/4 | 10.41 | 8.178 | 4 | 54.40 | 42.73 | 9 | 275.4 | 216.3 |
| 9/16 | 1.076 | .8449 | 1 13/16 | 11.17 | 8.773 | 4 1/4 | 61.41 | 48.24 | 9 1/4 | 291.1 | 228.5 |
| 5/8 | 1.328 | 1.043 | 1 7/8 | 11.95 | 9.388 | 4 1/2 | 68.85 | 54.07 | 9 1/2 | 306.8 | 241.0 |
| 11/16 | 1.608 | 1.262 | 1 15/16 | 12.76 | 10.02 | 4 3/4 | 76.71 | 60.25 | 9 3/4 | 323.2 | 253.9 |
| 3/4 | 1.913 | 1.502 | 2 | 13.60 | 10.68 | 5 | 85.00 | 66.76 | 10 | 340.0 | 267.0 |
| 13/16 | 2.245 | 1.763 | 2 1/8 | 15.35 | 12.06 | 5 1/4 | 93.72 | 73.60 | 10 1/4 | 357.2 | 280.6 |
| 7/8 | 2.603 | 2.044 | 2 1/4 | 17.22 | 13.52 | 5 1/2 | 102.8 | 80.77 | 10 1/2 | 374.9 | 294.4 |
| 15/16 | 2.989 | 2.347 | 2 3/8 | 19.18 | 15.07 | 5 3/4 | 112.4 | 88.29 | 10 3/4 | 392.9 | 308.6 |
| 1 | 3.400 | 2.670 | 2 1/2 | 21.25 | 16.69 | 6 | 122.4 | 96.14 | 11 | 411.4 | 323.1 |
| 1 1/16 | 3.838 | 3.014 | 2 5/8 | 23.43 | 18.40 | 6 1/4 | 132.8 | 104.3 | 11 1/4 | 430.3 | 337.9 |
| 1 1/8 | 4.303 | 3.379 | 2 3/4 | 25.00 | 20.20 | 6 1/2 | 143.6 | 112.8 | 11 1/2 | 449.6 | 353.1 |
| 1 3/16 | 4.795 | 3.766 | 2 7/8 | 28.10 | 22.07 | 6 3/4 | 154.9 | 121.7 | 11 3/4 | 469.4 | 368.6 |

### To Compute The Weight Of Sheet Steel

Multiply the thickness by 40.8; the result is the weight in pounds per square foot.

Example: A piece of Sheet Steel is .005 inches thick, its weight is .005 x 40.8 = .204 lbs. per square foot.

### To Compute The Weight Of Sheet Iron

Multiply the thickness by 40; the result is the weight in pounds per square foot.

Example: A piece of Sheet Iron is .005 inches thick, its weight is .005 x 40—.200 lbs. per square foot.

# Weight of Iron and Steel Sheets

### Thickness by Birmingham Gage

| No. of Gage | Thickness, Inches | Weight per Sq. Ft. Iron | Weight per Sq. Ft. Steel | No. of Gage | Thickness, Inches | Weight per Sq. Ft. Iron | Weight per Sq. Ft. Steel |
|---|---|---|---|---|---|---|---|
| 0000 | .454 | 18.16 | 18.52 | 17 | .058 | 2.32 | 2.37 |
| 000 | .425 | 17.00 | 17.34 | 18 | .049 | 1.96 | 2.00 |
| 00 | .38 | 15.20 | 15.30 | 19 | .042 | 1.68 | 1.71 |
| 0 | .34 | 13.60 | 13.87 | 20 | .035 | 1.40 | 1.43 |
| 1 | .3 | 12.00 | 12.24 | 21 | .032 | 1.28 | 1.31 |
| 2 | .284 | 11.36 | 11.59 | 22 | .028 | 1.12 | 1.14 |
| 3 | .259 | 10.36 | 10.57 | 23 | .025 | 1.00 | 1.02 |
| 4 | .238 | 9.52 | 9.71 | 24 | .022 | .88 | 8.98 |
| 5 | .22 | 8.80 | 8.98 | 25 | .02 | .80 | 8.16 |
| 6 | .203 | 8.12 | 8.28 | 26 | .018 | .72 | 7.34 |
| 7 | .18 | 7.20 | 7.34 | 27 | .016 | .64 | .653 |
| 8 | .165 | 6.60 | 6.73 | 28 | .014 | .56 | .571 |
| 9 | .148 | 5.92 | 6.04 | 29 | .013 | .52 | .530 |
| 10 | .134 | 5.36 | 5.47 | 30 | .012 | .48 | .490 |
| 11 | .12 | 4.80 | 4.90 | 31 | .01 | .40 | .408 |
| 12 | .109 | 4.36 | 4.45 | 32 | .009 | .36 | .367 |
| 13 | .095 | 3.80 | 3.88 | 33 | .008 | .32 | .326 |
| 14 | .083 | 3.32 | 3.39 | 34 | .007 | .28 | .286 |
| 15 | .072 | 2.88 | 2.94 | 35 | .005 | .20 | .204 |
| 16 | .065 | 2.60 | 2.65 | | | | |

### Thickness by American (or B. & S.) Gage

| No. of Gage | Thickness, Inches | Weight per Sq. Ft. Iron | Weight per Sq. Ft. Steel | No. of Gage | Thickness, Inches | Weight per Sq. Ft. Iron | Weight per Sq. Ft. Steel |
|---|---|---|---|---|---|---|---|
| 0000 | .46 | 18.40 | 18.77 | 17 | .0453 | 1.81 | 1.85 |
| 000 | .4096 | 16.38 | 16.71 | 18 | .0403 | 1.61 | 1.64 |
| 00 | .3648 | 14.59 | 14.88 | 19 | .0359 | 1.44 | 1.46 |
| 0 | .3249 | 13.00 | 13.26 | 20 | .0320 | 1.28 | 1.31 |
| 1 | .2893 | 11.57 | 11.80 | 21 | .0285 | 1.14 | 1.16 |
| 2 | .2576 | 10.30 | 10.51 | 22 | .0253 | 1.01 | 1.03 |
| 3 | .2294 | 9.18 | 9.36 | 23 | .0226 | .904 | .922 |
| 4 | .2043 | 8.17 | 8.34 | 24 | .0201 | .804 | .820 |
| 5 | .1819 | 7.28 | 7.42 | 25 | .0179 | .716 | .730 |
| 6 | .1620 | 6.48 | 6.61 | 26 | .0159 | .636 | .649 |
| 7 | .1443 | 5.77 | 5.89 | 27 | .0142 | .568 | .579 |
| 8 | .1285 | 5.14 | 5.24 | 28 | .0126 | .504 | .514 |
| 9 | .1144 | 4.58 | 4.67 | 29 | .0113 | .452 | .461 |
| 10 | .1019 | 4.08 | 4.16 | 30 | .0100 | .400 | .408 |
| 11 | .0907 | 3.63 | 3.70 | 31 | .0089 | .356 | .363 |
| 12 | .0808 | 3.23 | 3.30 | 32 | .0080 | .320 | .326 |
| 13 | .0720 | 2.88 | 2.94 | 33 | .0071 | .284 | .290 |
| 14 | .0741 | 2.56 | 2.62 | 34 | .0063 | .252 | .257 |
| 15 | .0571 | 2.28 | 2.33 | 35 | .0056 | .224 | .228 |
| 16 | .0508 | 2.03 | 2.07 | | | | |

| | | |
|---|---|---|
| Specific gravity | Iron 7.7 | Steel 7.854 |
| Weight per cubic foot | Iron 480. | Steel 489.6 |
| Weight per cubic inch | Iron .2778 | Steel .2833 |

As many gages differ, and even the thickness of a certain specified gage is not assumed the same by all manufacturers, orders for sheets and wires should always state the weight per square foot or the thickness in thousandths of an inch.

## United States Standard Gage

### For Sheet and Plate Iron and Steel

| Number of Gage | Approximate thickness in fractions of an inch | Approximate thickness in decimal part of an inch | Weight per square foot in ounces avoirdupois | Weight per square foot in pounds avoirdupois | Number of Gage | Approximate thickness in fractions of an inch | Approximate thickness in decimal part of an inch | Weight per square foot in ounces avoirdupois | Weight per square foot in pounds avoirdupois |
|---|---|---|---|---|---|---|---|---|---|
| 0000000 | 1/2 | .5 | 320 | 20.00 | 20 | 3/80 | .0375 | 24 | 1.50 |
| 000000 | 15/32 | .46875 | 300 | 18.75 | 21 | 11/320 | .034375 | 22 | 1.375 |
| 00000 | 7/16 | .4375 | 280 | 17.50 | 22 | 1/32 | .03125 | 20 | 1.25 |
| 0000 | 13/32 | .40625 | 260 | 16.25 | 23 | 9/320 | .028125 | 18 | 1.125 |
| 000 | 3/8 | .375 | 240 | 15.00 | 24 | 1/40 | .025 | 16 | 1. |
| 00 | 11/32 | .34375 | 220 | 13.75 | 25 | 7/320 | .021875 | 14 | .875 |
| 0 | 5/16 | .3125 | 200 | 12.50 | 26 | 1/160 | .01875 | 12 | .75 |
| 1 | 9/32 | .28125 | 180 | 11.25 | 27 | 11/640 | .0171875 | 11 | .6875 |
| 2 | 17/64 | .265625 | 170 | 10.625 | 28 | 1/64 | .015625 | 10 | .625 |
| 3 | 1/4 | .25 | 160 | 10.00 | 29 | 9/640 | .0140625 | 9 | .5625 |
| 4 | 15/64 | .234375 | 150 | 9.375 | 30 | 1/80 | .0125 | 8 | .5 |
| 5 | 7/32 | .21875 | 140 | 8.75 | 31 | 7/640 | .0109375 | 7 | .4375 |
| 6 | 13/64 | .203125 | 130 | 8.125 | 32 | 13/1280 | .01015625 | 6 1/2 | .40625 |
| 7 | 3/16 | .1875 | 120 | 7.5 | 33 | 3/320 | .009375 | 6 | .375 |
| 8 | 11/64 | .171875 | 110 | 6.875 | 34 | 11/1280 | .00859375 | 5 1/2 | .34375 |
| 9 | 5/32 | .15625 | 100 | 6.25 | 35 | 5/640 | .0078125 | 5 | .3125 |
| 10 | 9/64 | .140625 | 90 | 5.625 | 36 | 9/1280 | .00703125 | 4 1/2 | .28125 |
| 11 | 1/8 | .125 | 80 | 5.00 | 37 | 13/2560 | .006640625 | 4 1/4 | .265625 |
| 12 | 7/64 | .109375 | 70 | 4.375 | 38 | 1/160 | .00625 | 4 | .25 |
| 13 | 5/32 | .09375 | 60 | 3.75 | 39 | 13/2560 | .005859375 | 3 3/4 | .234375 |
| 14 | 5/64 | .078125 | 50 | 3.125 | 40 | 7/1280 | .00546875 | 3 1/2 | .21875 |
| 15 | 9/128 | .0703125 | 45 | 2.8125 | 41 | 23/5120 | .0052734375 | 3 3/8 | .2109375 |
| 16 | 1/16 | .0625 | 40 | 2.5 | 42 | 13/2560 | .005078125 | 3 1/4 | .203125 |
| 17 | 9/160 | .05625 | 36 | 2.25 | 43 | 23/5120 | .0048828125 | 3 1/8 | .1953125 |
| 18 | 1/20 | .05 | 32 | 2. | 44 | 3/640 | .0046875 | 3 | .1875 |
| 19 | 7/160 | .04375 | 28 | 1.75 | | | | | |

## 29° Screw Thread

### Acme Standard

**The various parts of the 29° screw thread, Acme Standard, are obtained as follows:**

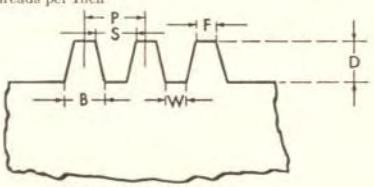
$$\text{Width of point of tool for screw or tap thread} = \frac{.3707}{\text{Threads per Inch}} - .0052$$

$$\text{Width of screw or nut thread} = \frac{.3707}{\text{Threads per Inch}}$$

$$\text{Diameter of tap} = \text{Diameter of screw} + .020$$

$$\text{Diameter of tap or screw at root} = \text{Diameter of screw} - \left(\frac{1}{\text{Threads per In.}} + .020\right)$$

$$\text{Depth of thread} = \frac{1}{2 \times \text{Threads per Inch}} + .010$$




### Table of Thread Parts

| Threads per Inch | D Depth of Thread | F Width of Flat at Top of Tooth | W Width of Flat at Bottom of Thread | S Width of Space Between Top of Teeth | B Width of Tooth at Root | Threads per Inch | D Depth of Thread | F Width of Flat at Top of Tooth | W Width of Flat at Bottom of Thread | S Width of Space Between Top of Teeth | B Width of Tooth at Root |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | .5100 | .3707 | .3655 | .6293 | .6345 | 5 | .1100 | .0741 | .0689 | .1259 | .1311 |
| 1 1/2 | .3851 | .2781 | .2729 | .4721 | .4773 | 6 | .0933 | .0618 | .0566 | .1049 | .1101 |
| 1 1/2 | .3433 | .2471 | .2419 | .4196 | .4248 | 7 | .0814 | .0530 | .0478 | .0898 | .0950 |
| 1 3/4 | .2957 | .2188 | .2066 | .3596 | .3648 | 8 | .0725 | .0463 | .0411 | .0787 | .0839 |
| 2 | .2600 | .1854 | .1802 | .3146 | .3198 | 9 | .0656 | .0412 | .0360 | .0699 | .0751 |
| 2 1/2 | .2100 | .1483 | .1431 | .2517 | .2569 | 10 | .0600 | .0371 | .0319 | .0629 | .0681 |
| 3 | .1767 | .1236 | .1184 | .2097 | .2149 | 12 | .0517 | .0309 | .0257 | .0524 | .0576 |
| 4 | .1350 | .0927 | .0875 | .1573 | .1625 | | | | | | |

# ALPHABETICAL INDEX

# NUMERICAL INDEX

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